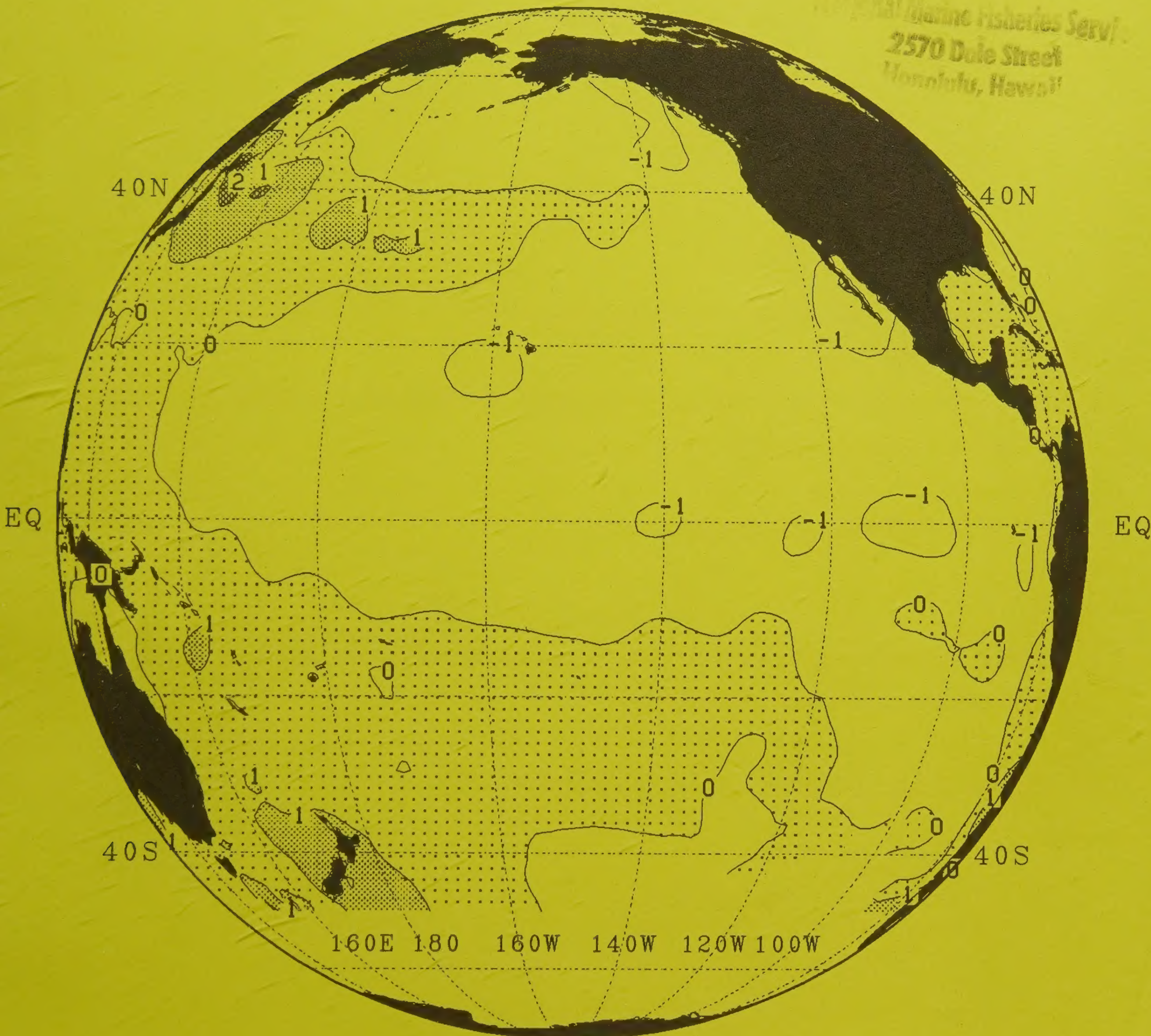
気象庁海洋月報

Monthly Ocean Report

September 1999 (No. 81)



Climate and Marine Department
Japan Meteorological Agency

気象庁 気候・海洋気象部

平成11年9月

気象庁海洋月報は、気象庁 気候·海洋気象部 海洋課で作成しています。

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表紙は、1999年9月の太平洋の月平均海面水温偏差図です。
陰影部は、平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for September 1999 in the Pacific Ocean.
Areas of positive anomalies are shaded.

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海況の特徴（１９９９年９月）

日本近海の海況

海面水温は、北海道東方で平年より2℃以上高く、先月に続き記録的な正偏差となっていた。九州から南西諸島周辺を除くその他の海域でも、平年より0.5℃以上高かった（第４図、第12図）。

黒潮は、上旬は九州から足摺岬にかけて、中旬は九州から紀伊半島にかけて離岸していた。下旬は九州から足摺岬にかけて接岸した後、紀伊水道沖で離岸していた。紀伊半島以東では、上旬は東北東に流れて三宅島付近を、中旬は東に流れ八丈島の西で北に向きを変え三宅島付近を、下旬は東に流れ八丈島と三宅島の間を通っていた。房総半島には月を通して接岸して北東に流れていた（第9図）。

親潮系の冷水の沿岸寄りの分枝は38.5゜N、142.5゜Eまで、沖合の分枝は39.5゜N、145.5゜Eまで、それぞれ達していた（第5図）。

太平洋の海況

太平洋赤道域の海面水温は、170゜E以東で平年より0.5℃以上低く、140 W以東には-1℃以下の負偏差域が見られた。一方、155゜E以西は平年より0.5℃以上高かった。

北太平洋では、35゜Nに沿った170゜W以西で平年より1℃以上高かった。アラスカ湾及びその南の海域では-1℃以下の負偏差域が見られた（第16図）。

Highlights September 1999

Seas adjacent to Japan

East of Hokkaido remarkable positive SST anomalies exceeding +2°C have continued since August. SSTs were more than 0.5°C above normal around Japan, except in seas around Kyushu and the Nansei Islands (Fig. 4, Fig. 12).

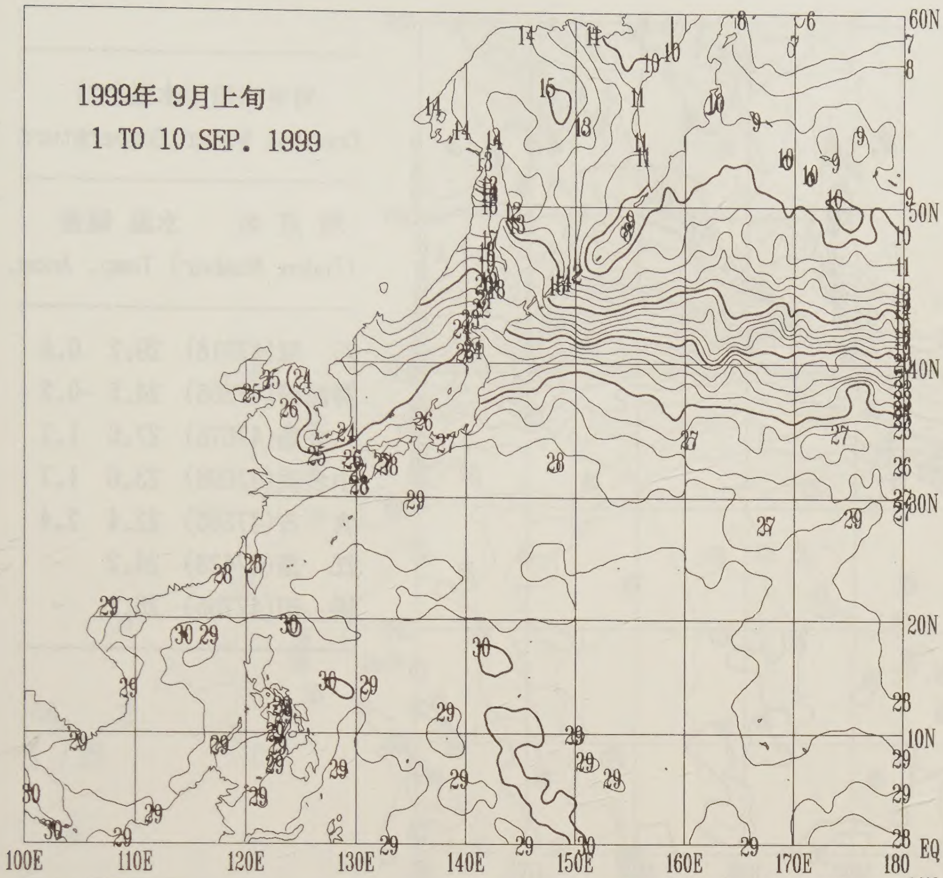
The Kuroshio flowed far off the coasts from Kyushu to Ashizuri-misaki in the first 10-day and far off the coasts from Kyushu to the Kii Peninsula in the second 10-day of the month. In the last 10-day, it flowed along the coasts from Kyushu to Ashizuri-misaki and off the Kii Channel. East of the Kii Peninsula, the Kuroshio flowed ENE-ward to Miyake Island for the first 10-day, flowed eastward and turned northward at the west of Hachijo Island in the second 10-day, flowed eastward and passed between Hachijo Island and Miyake Island in the last 10-day. It flowed NE-ward along the coast of the Boso Peninsula through the month (Fig. 9).

Coastal and off-coastal branches of the Oyashio cold water extended southward to 38.5°N, 142.5°E and 39.5°N, 145.5°E, respectively (Fig. 5).

Pacific Ocean

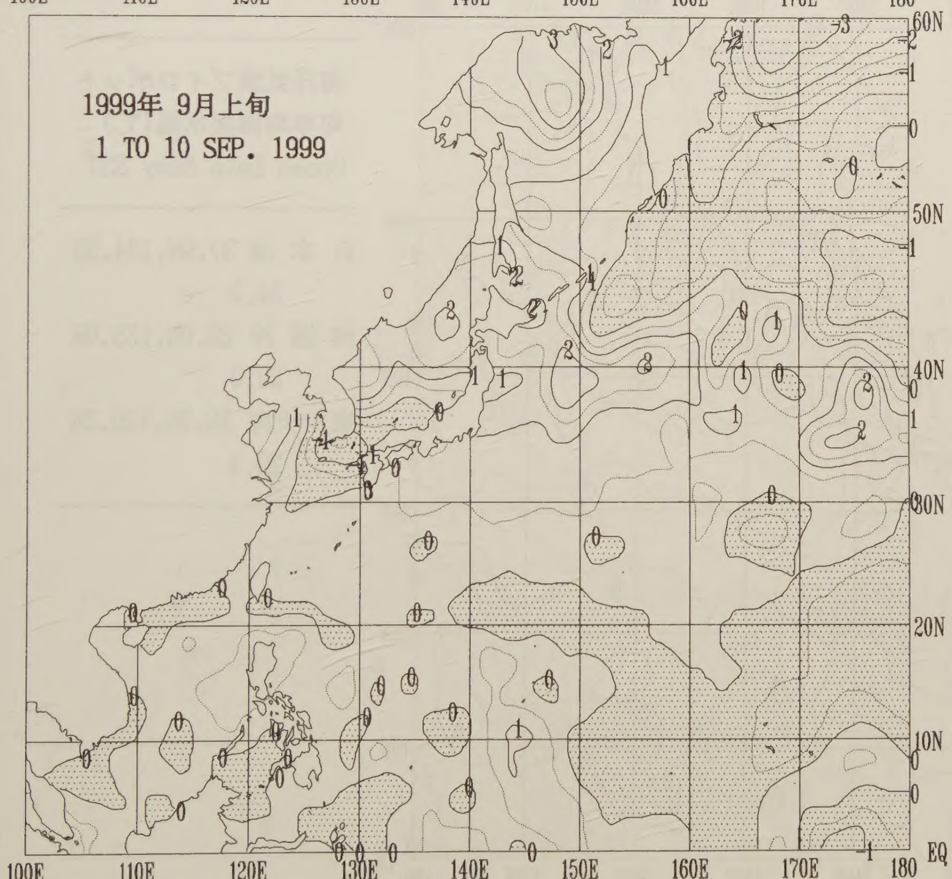
In the equatorial Pacific, negative SST anomalies exceeding -0.5°C prevailed east of 170°E, and those exceeding -1°C were found east of 140°W. SSTs were more than 0.5°C above normal west of 155°E.

In the North Pacific, positive SST anomalies exceeding +1°C prevailed from 170°W westward along 35°N. Negative SST anomalies exceeding -1°C were found in the Gulf of Alaska and south of the gulf (Fig. 16).



旬平均沿岸水温(℃)
Coastal Water Temperature

地点名 (Index Number)	水温 Temp.	偏差 Anom.
石 垣(47918)	29.2	0.4
御前崎(47655)	25.6	-0.2
八丈島(47678)	27.5	0.6
小名浜(47598)	24.2	1.9
宮 古(47585)	21.8	1.8
江 差(47428)	25.3	-
浜 田(47755)	26.1	-



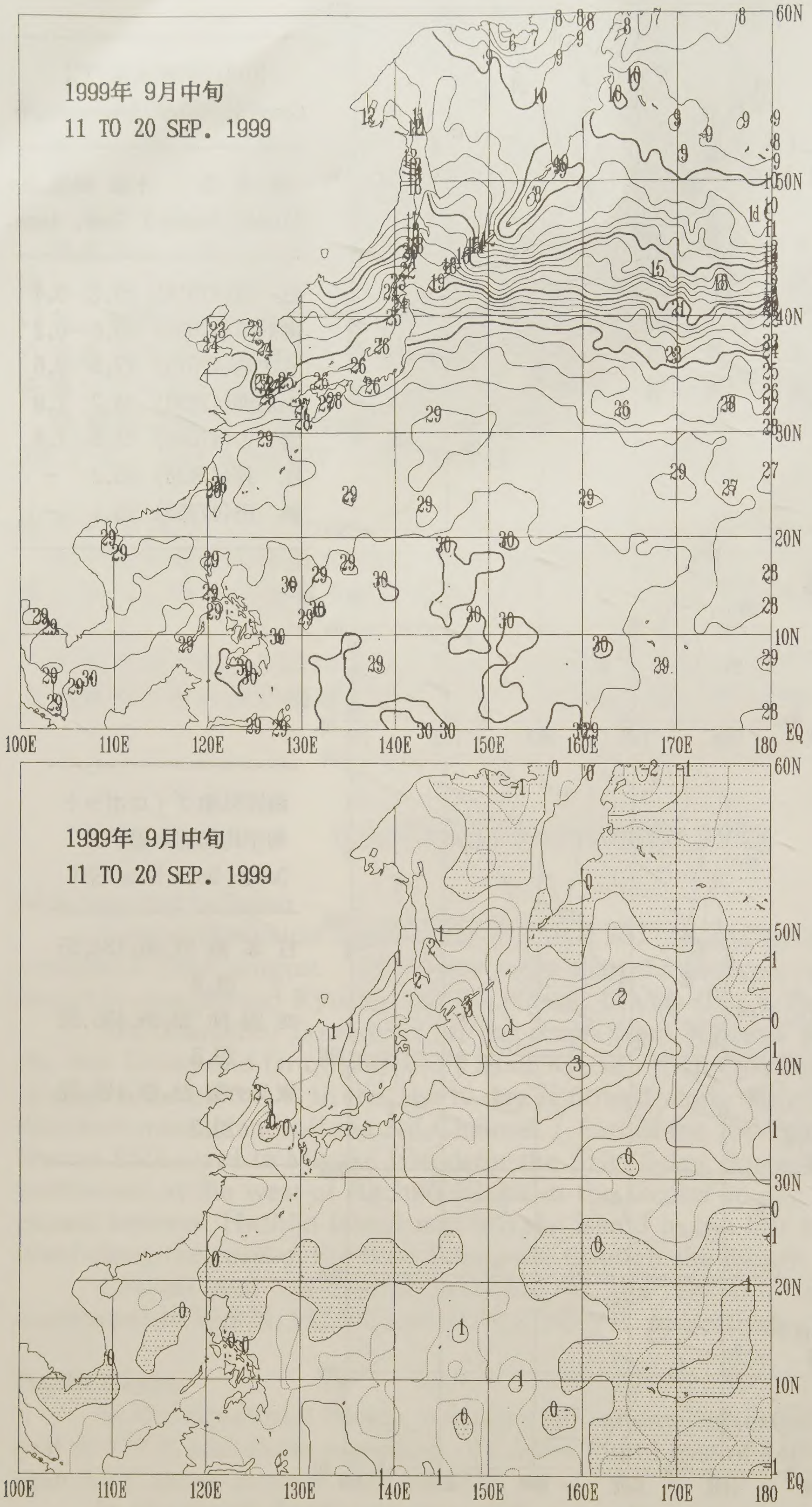
海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

地点	位置	SST
日本海	37.9N,134.5E	24.8
四国沖	29.0N,135.0E	29.5
東シナ海	28.2N,126.3E	29.2

第1図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1999年 9月上旬)

Fig.1 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 1st ten-day period in SEP 1999. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.

Ten-day mean SST & Anomalies



旬平均沿岸水温(℃)
Coastal Water Temperature

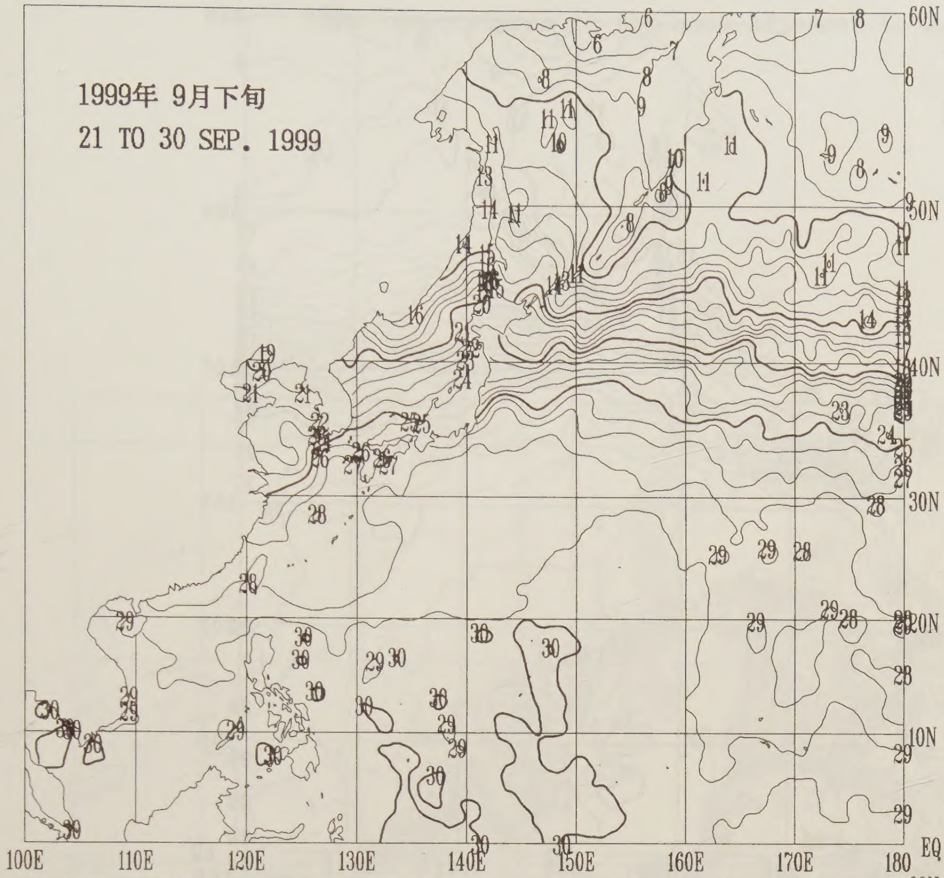
地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	29.2	0.8
御前崎(47655)	24.5	-0.2
八丈島(47678)	27.6	1.1
小名浜(47598)	23.6	1.7
宮　古(47585)	22.4	2.4
江　差(47428)	24.2	-
浜　田(47755)	26.1	-

海洋気象ブイロボット
旬平均海面水温(℃)
Ocean Data Buoy SST

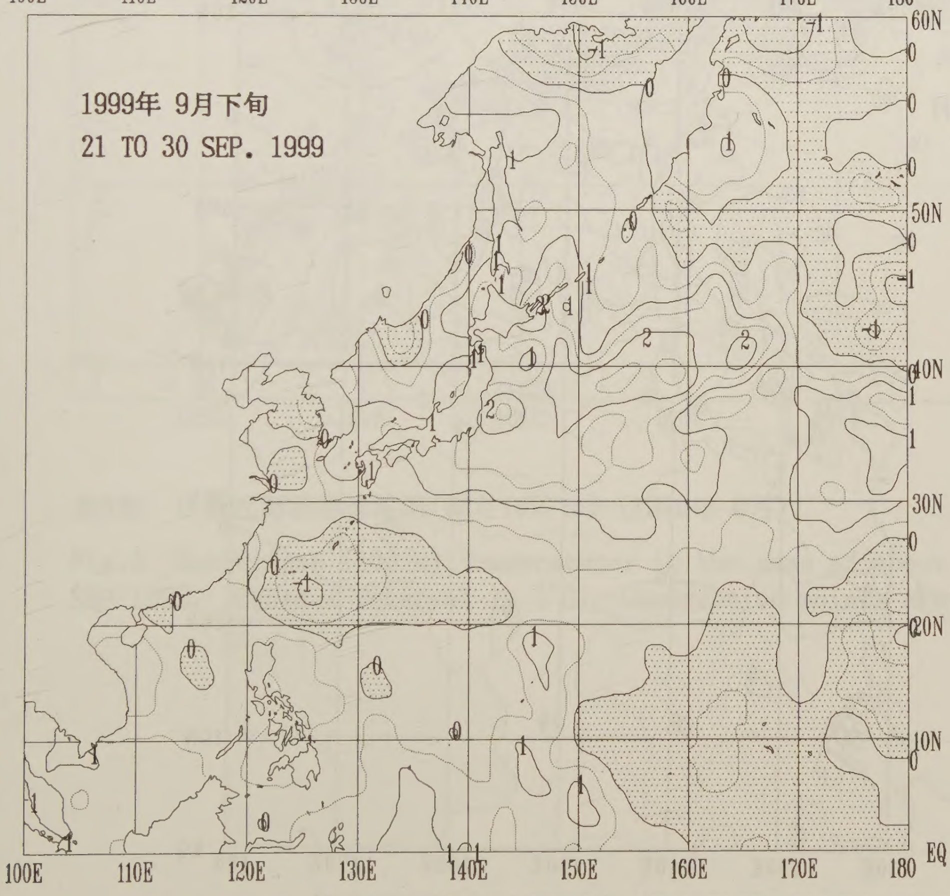
日本海	37.9N,134.5E	24.2
四国沖	29.0N,135.0E	29.0
東シナ海	28.2N,126.3E	29.3

第2図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1999年 9月中旬)

Fig.2 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 2nd ten-day period in SEP 1999. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.



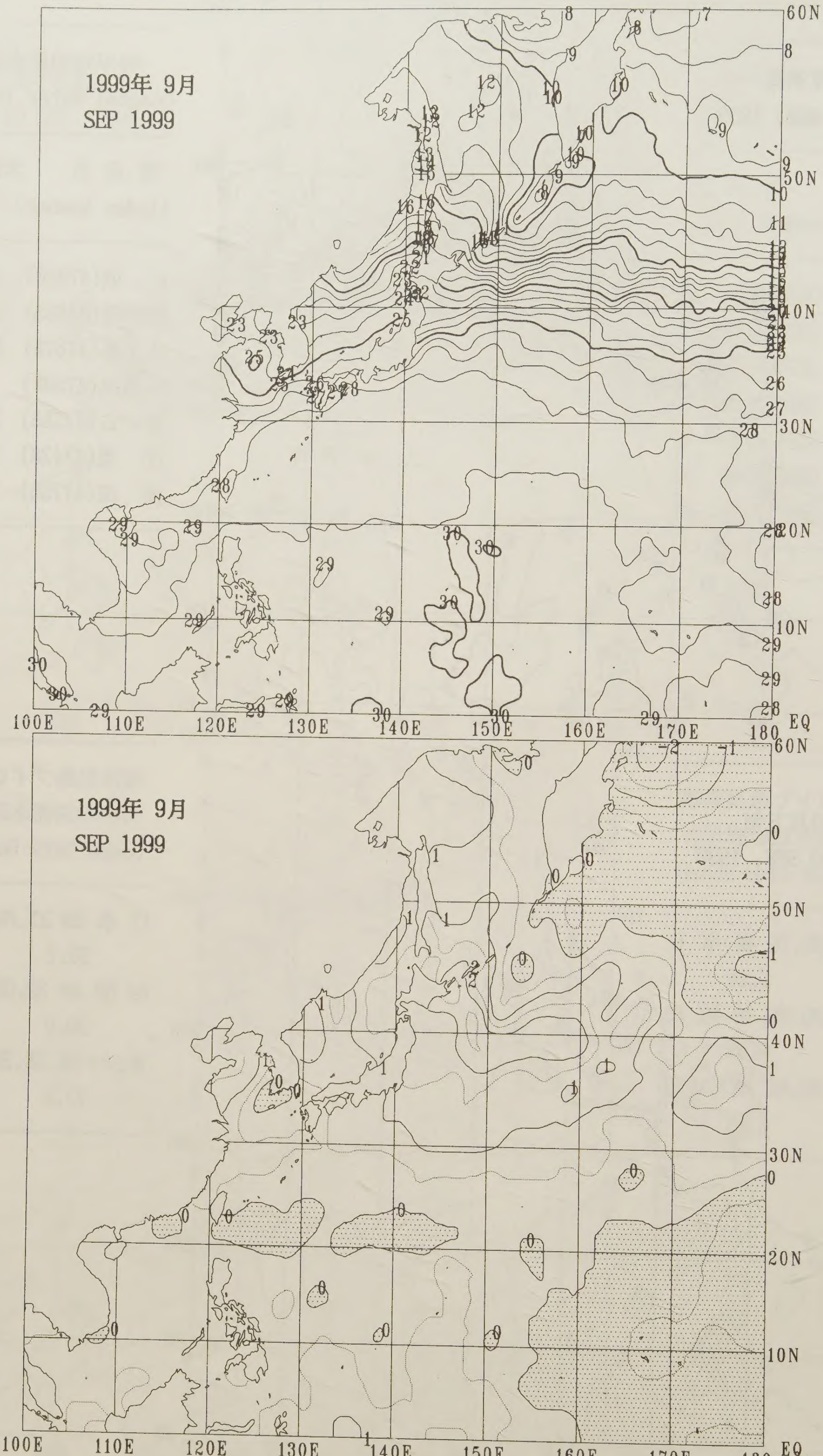
旬平均沿岸水温(℃) Coastal Water Temperature		
地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	27.4	-0.5
御前崎(47655)	24.9	1.4
八丈島(47678)	27.5	1.6
小名浜(47598)	-	-
宮　古(47585)	20.9	1.3
江　差(47428)	22.1	-
浜　田(47755)	25.0	-



海洋気象ブイロボット 旬平均海面水温(℃) Ocean Data Buoy SST	
日本海 37.9N,134.5E	23.2
四国沖 29.0N,135.0E	29.0
東シナ海 28.2N,126.3E	27.8

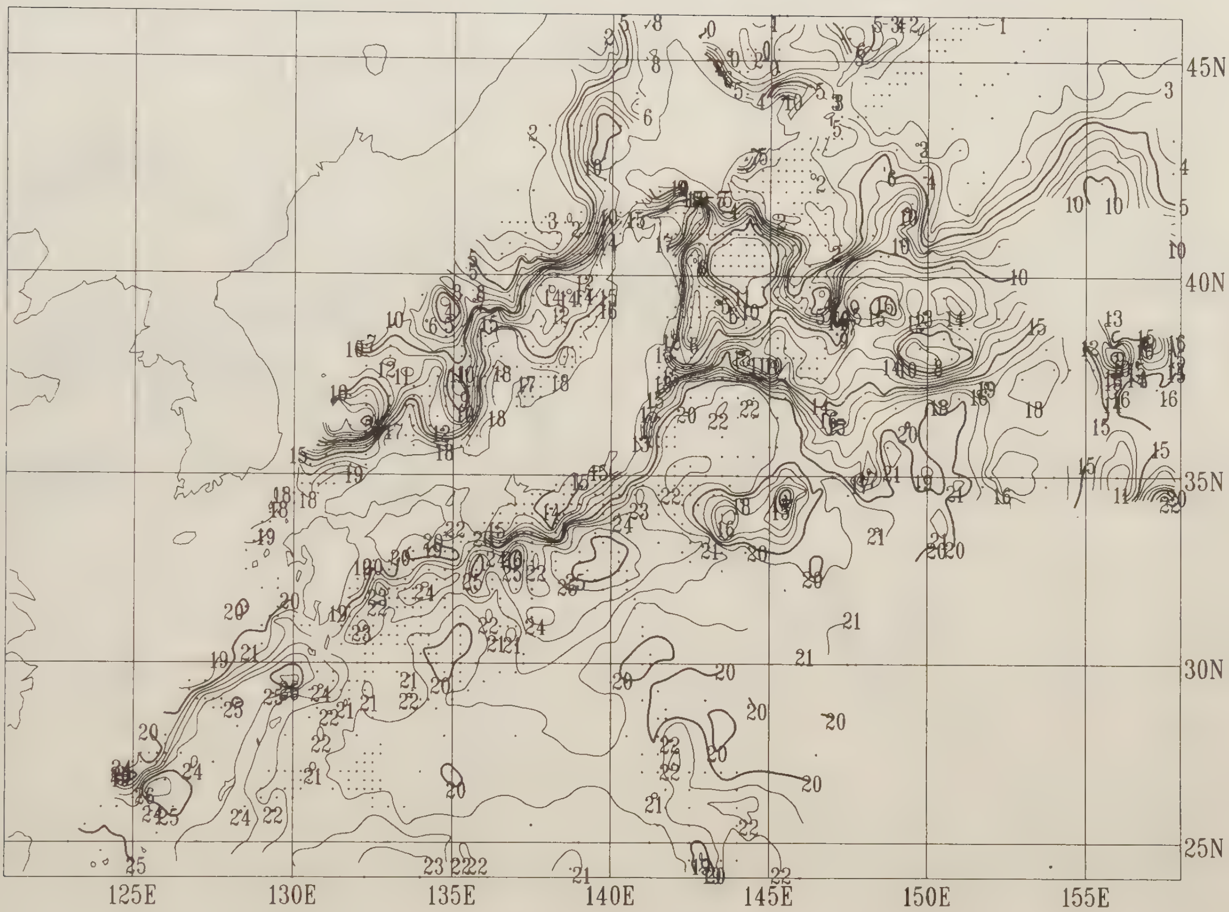
第3図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(1999年 9月下旬)

Fig.3 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 3rd ten-day period in SEP 1999. Anomalies are computed from the JMA climatology (1961-90). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.



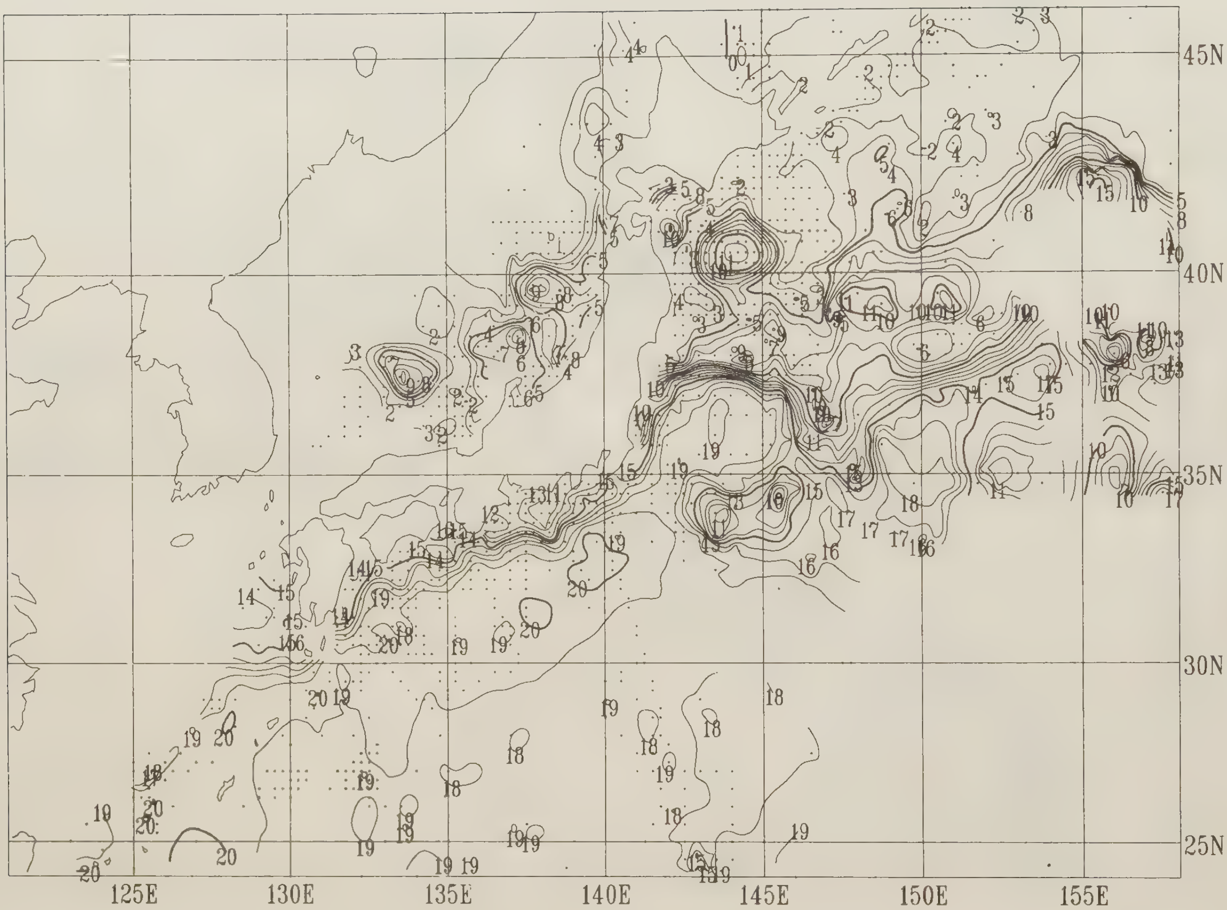
第4図 北西太平洋月平均海面水温図(上)及び偏差図(下)(1999年 9月)

Fig.4 Monthly mean SST (top) and anomalies (bottom) in the western North Pacific for SEP 1999. Anomalies are computed from the JMA climatology (1961-1990). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.



第5図　日本近海表層水温図(深さ100 m) (1999年 9月)

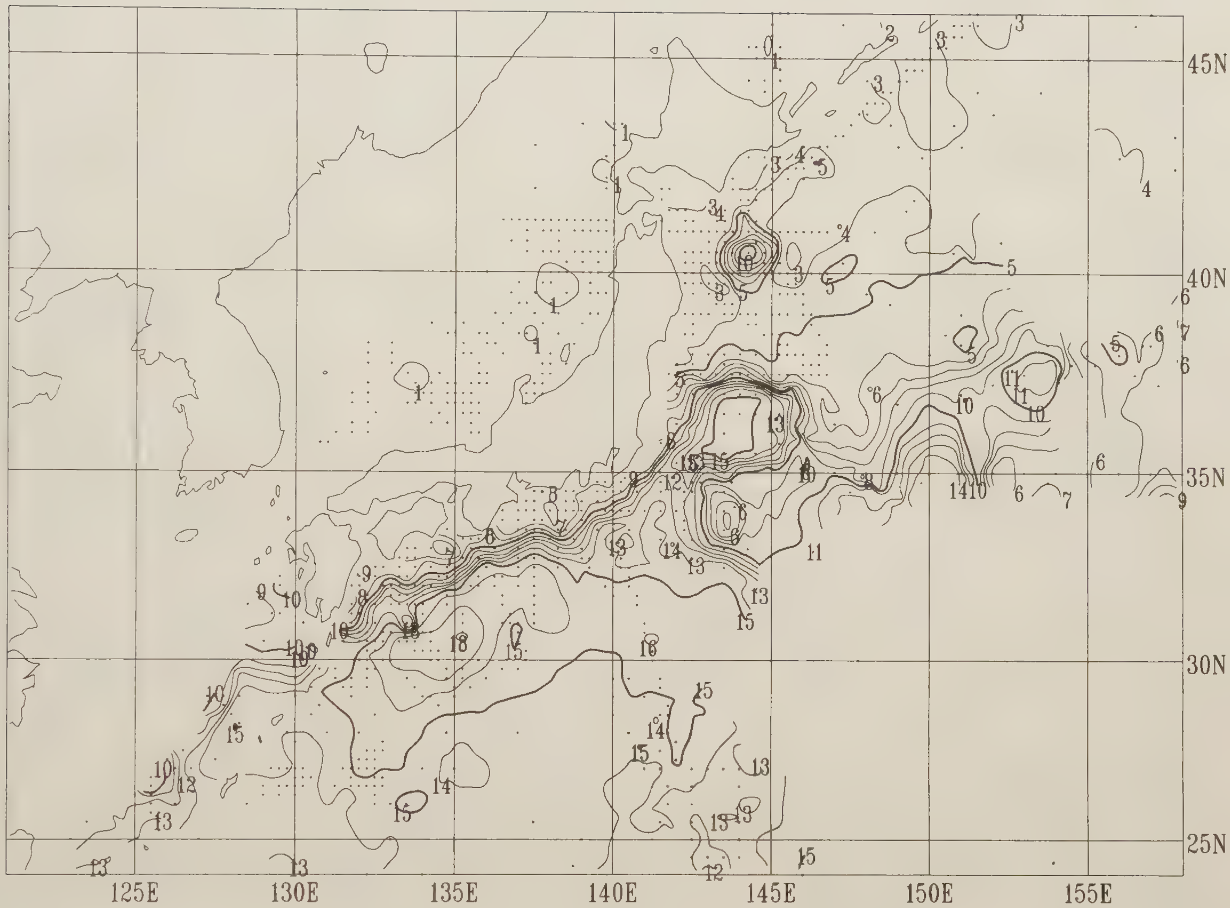
Fig.5 Subsurface (100 m) temperatures in the seas adjacent to Japan for SEP 1999. Contour interval is 1°C. Observation points are denoted by dots.



第6図　日本近海表層水温図(深さ200 m)（1999年 9月)

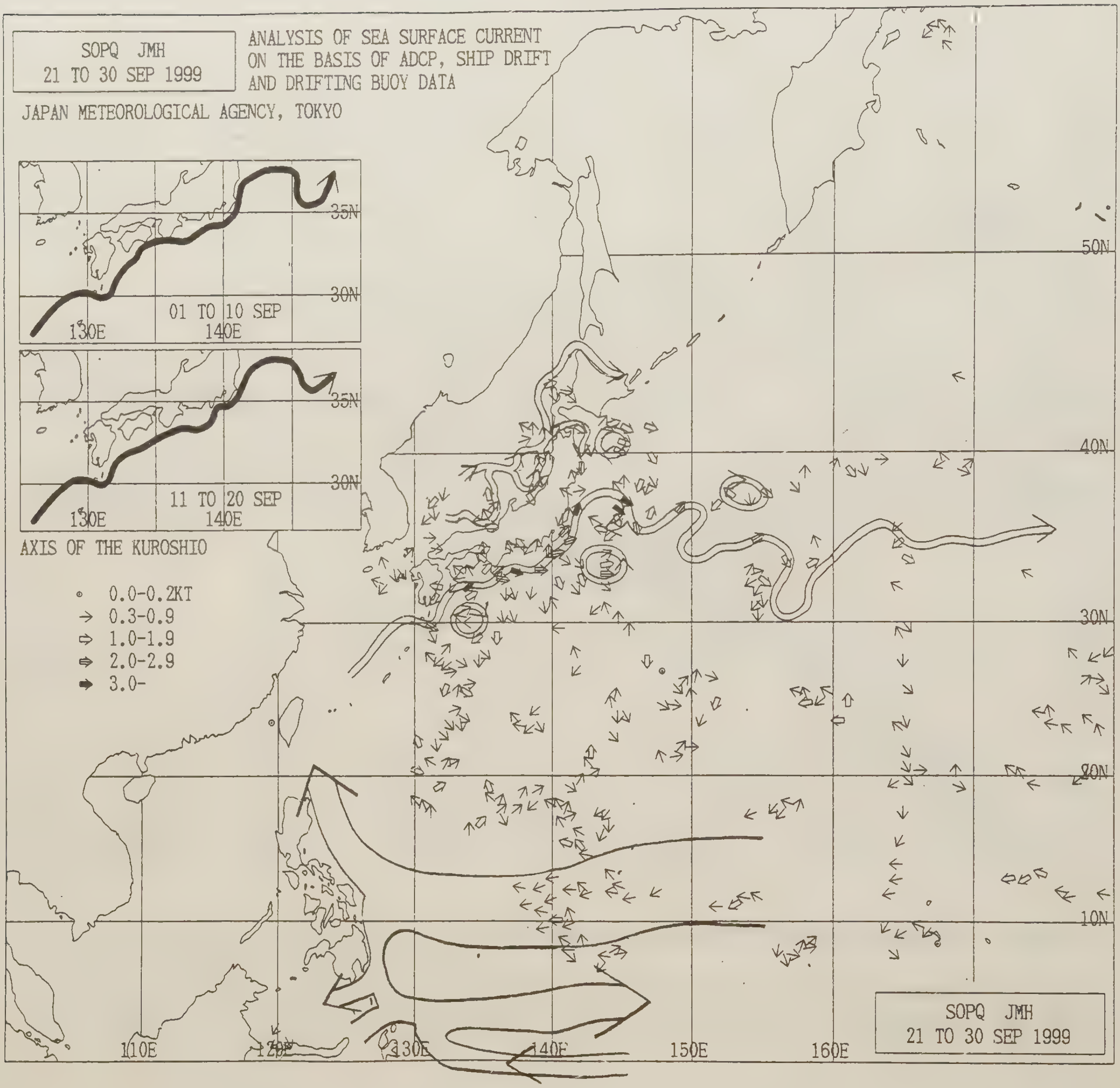
Fig.6 Subsurface (200 m) temperatures in the seas adjacent to Japan for SEP 1999. Contour interval is 1°C. Observation points are denoted by dots.

400m Temperatures in the Seas Adjacent to Japan



第7図　日本近海表層水温図(深さ400 m) (1999年 9月)

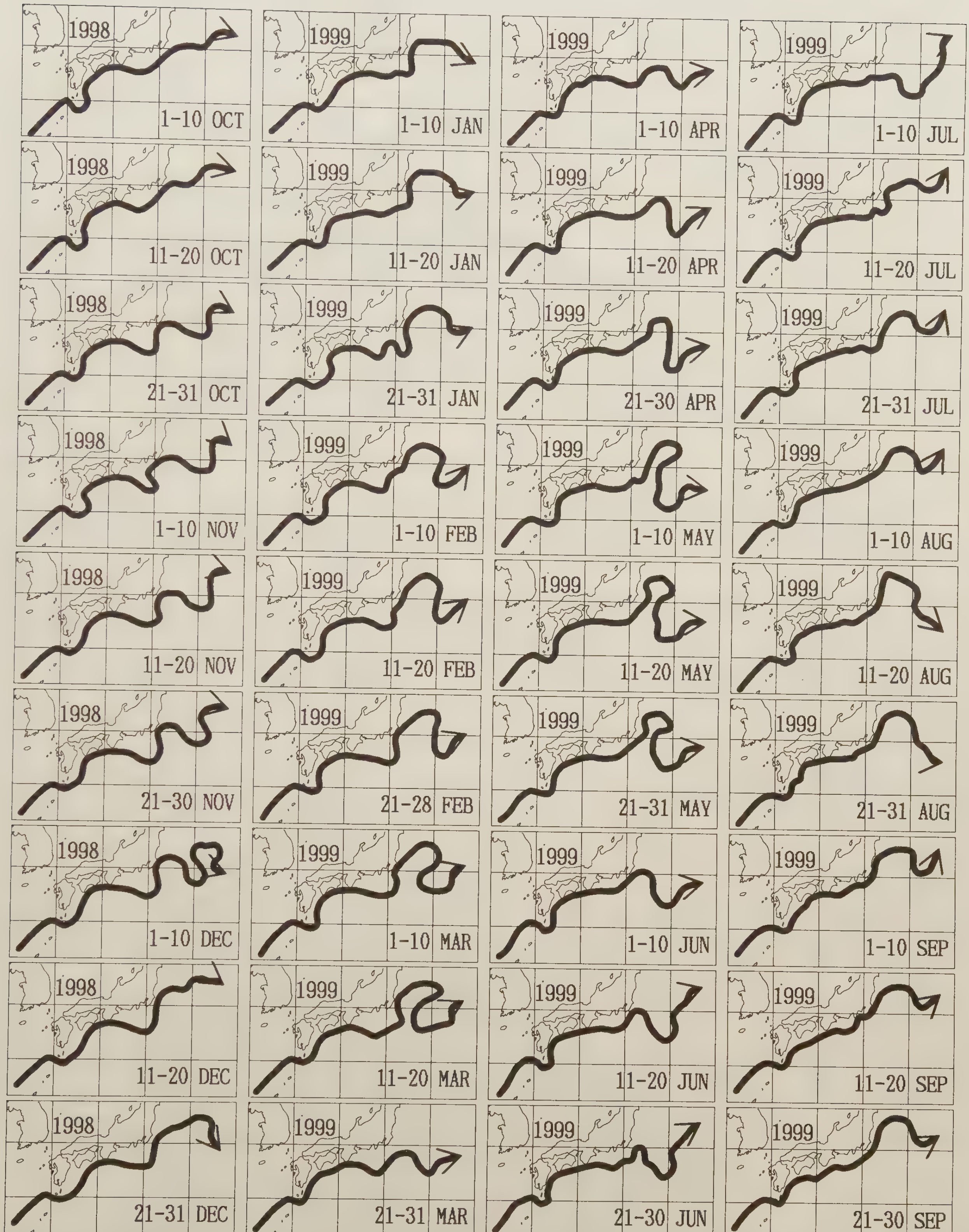
Fig.7 Subsurface (400 m) temperatures in the seas adjacent to Japan for SEP 1999. Contour interval is 1°C. Observation points are denoted by dots.



第 8 図　北西太平洋海流図（1999 年 9 月下旬）

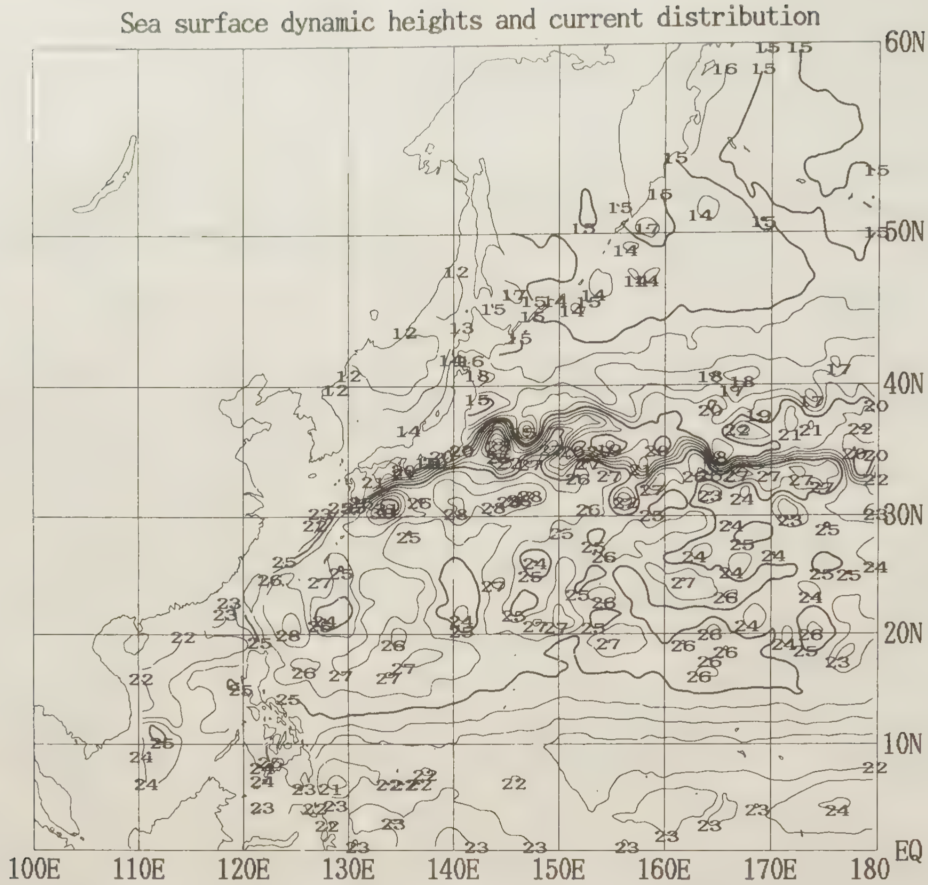
Fig. 8　Analysis of the sea surface current in the western North Pacific for the 3rd ten-day period in September 1999. Small arrows indicate *in situ* observations. Major currents such as the Kuroshio and the North Equatorial Current are denoted by larger open arrows.

Location of the Kuroshio axis



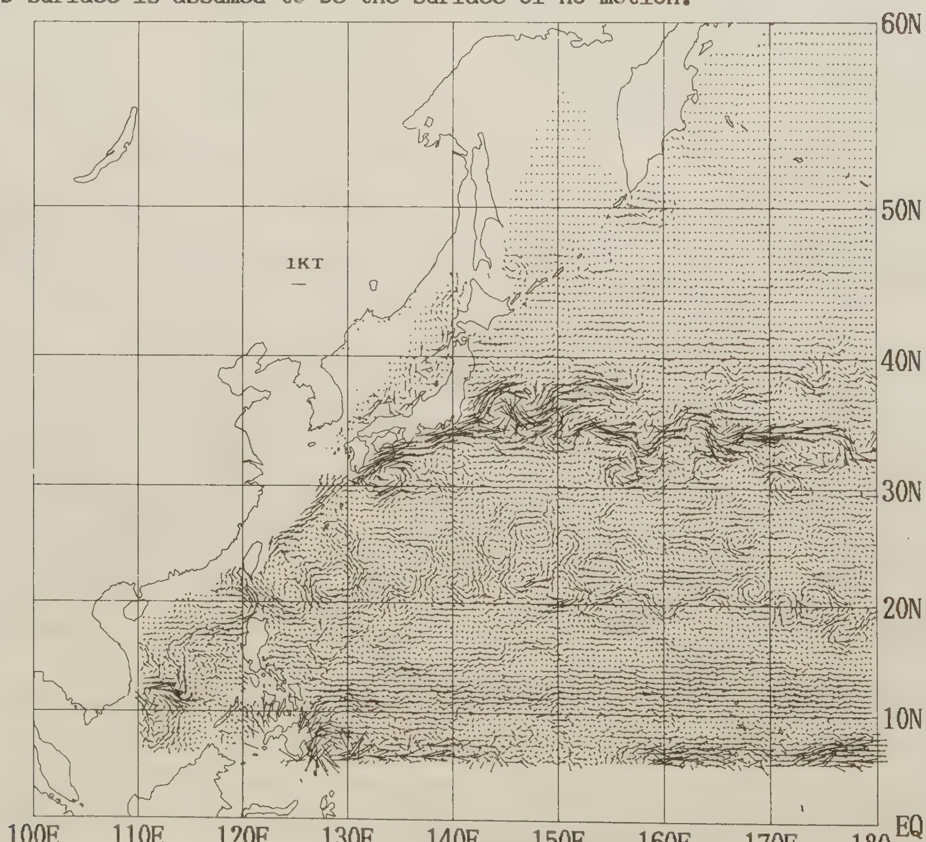
第9図 旬別黒潮流軸図

Fig.9 Location of the Kuroshio axis



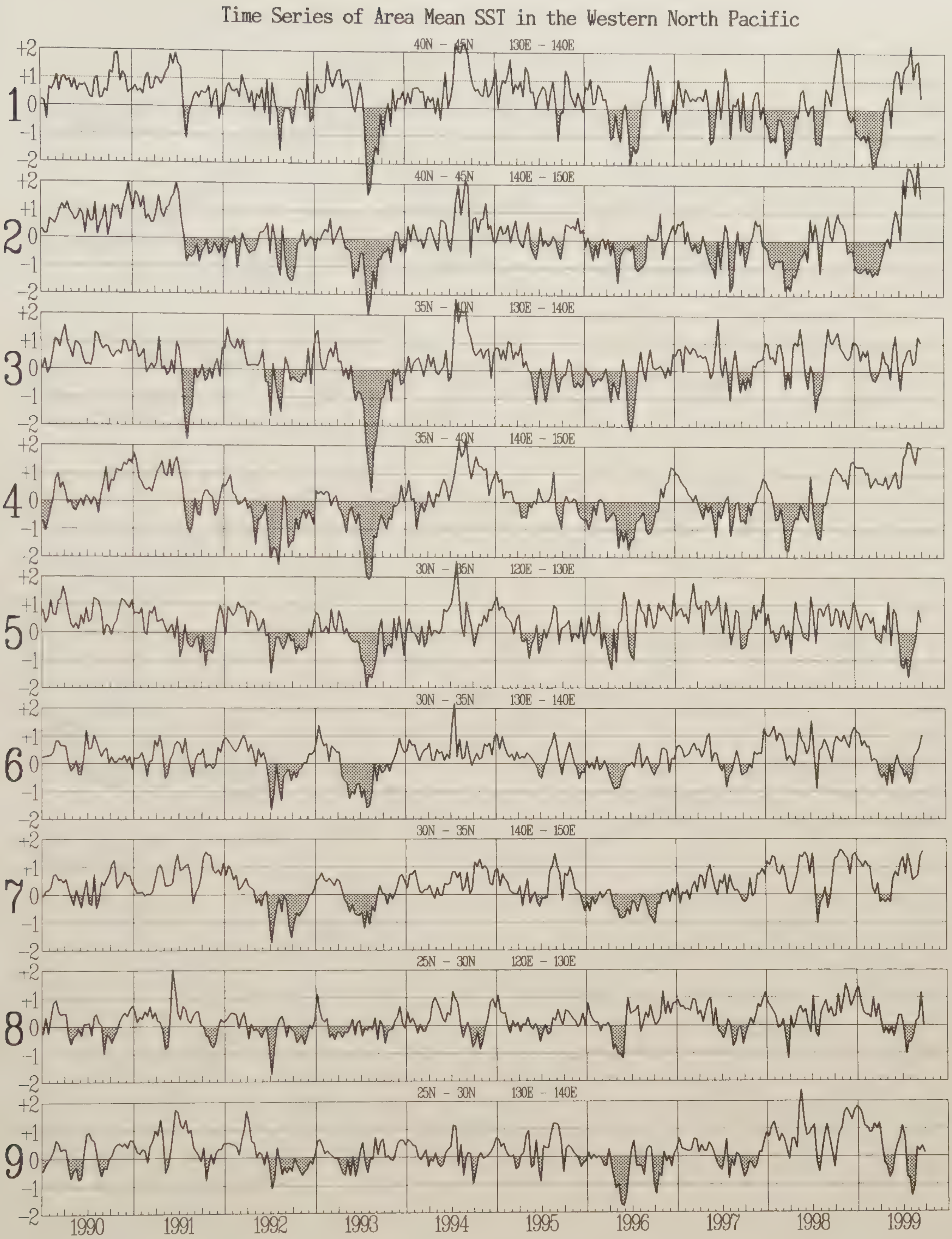
第10図 北西太平洋力学的海面高度分布図(1999年 9月27日)

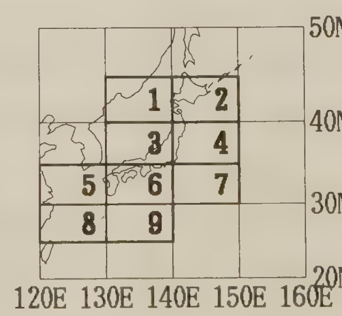
Fig.10 Sea surface dynamic heights (10cm) in the western North Pacific derived from the altimeter data of TOPEX/POSEIDON (SEP 27, 1999).
1500db surface is assumed to be the surface of no motion.



第11図 北西太平洋海流ベクトル図(1999年 9月27日)

Fig.11 Sea surface current vectors in the western North Pacific (SEP 27, 1999).
Vectors are derived from the sea surface dynamic heights from TOPEX/POSEIDON and subsurface temperature distribution assuming the geostrophic relation.

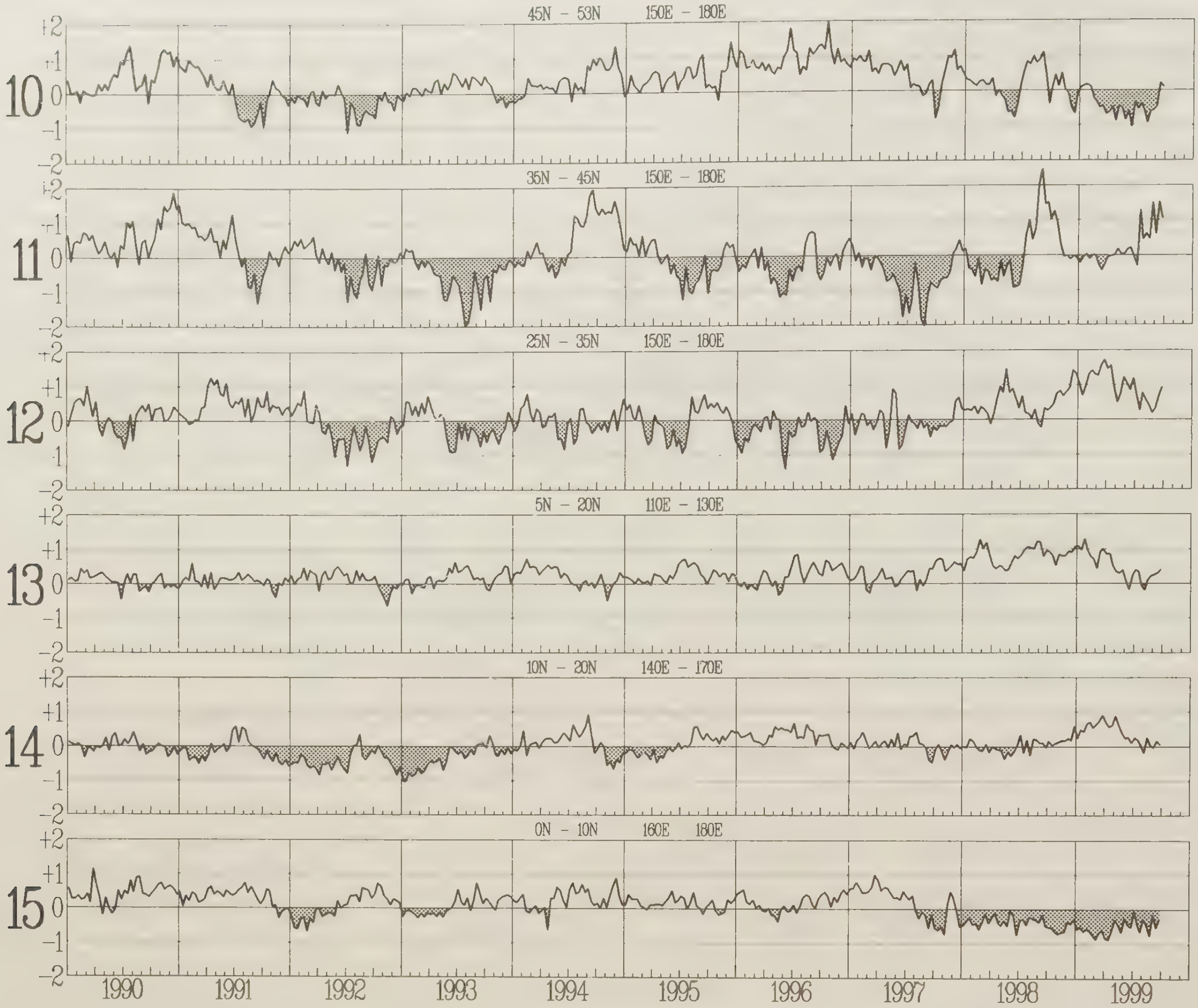




第12図　海域別旬平均海面水温平年偏差時系列図

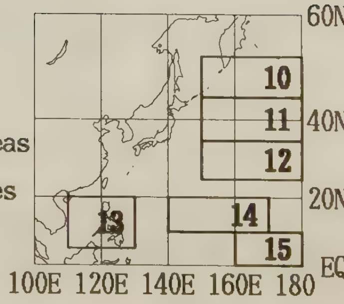
Fig.12 Time series of the ten-day mean sea surface temperature anomalies (°C) in the western North Pacific for the areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1961-90).

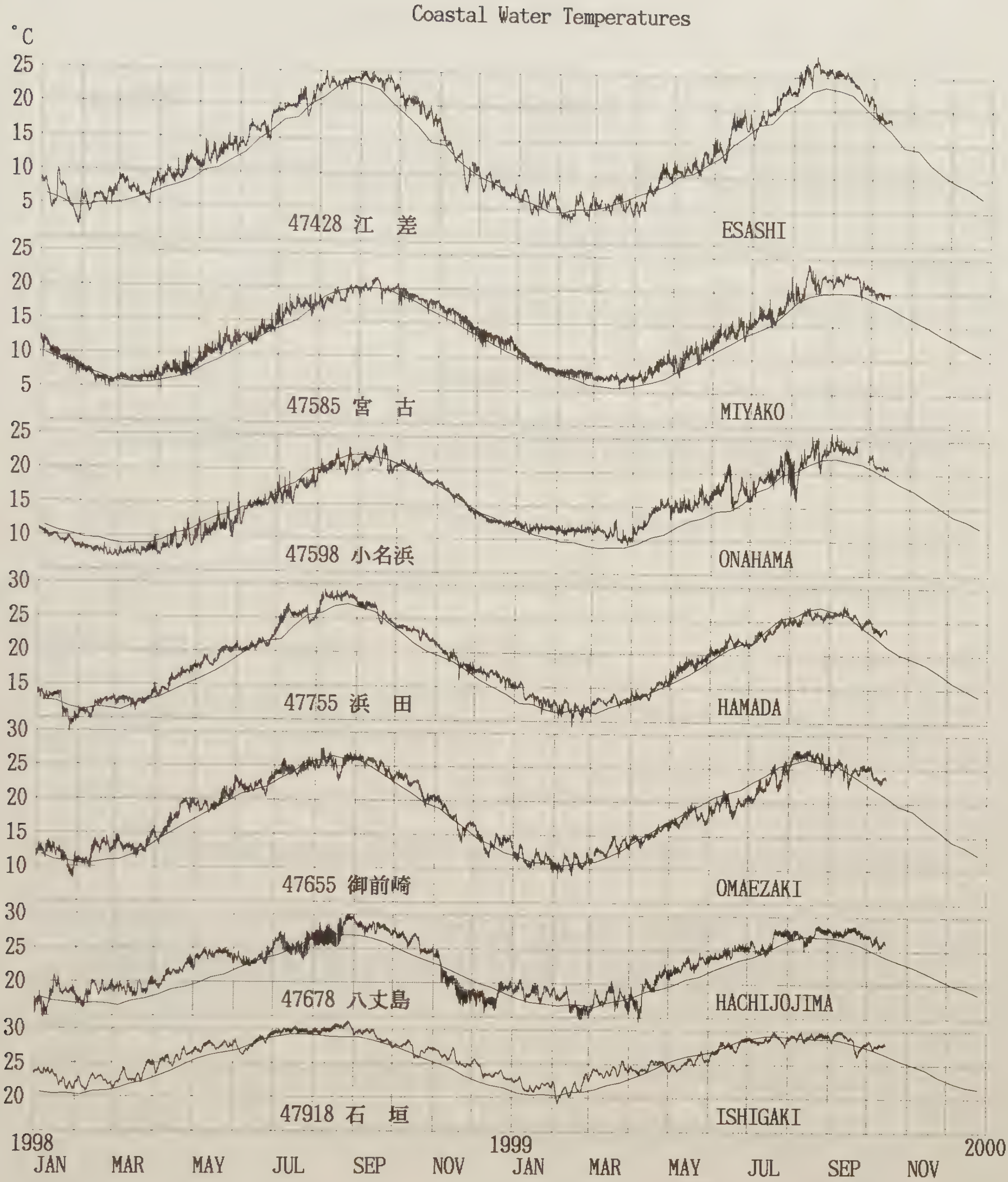
Time Series of Area Mean SST in the Western North Pacific

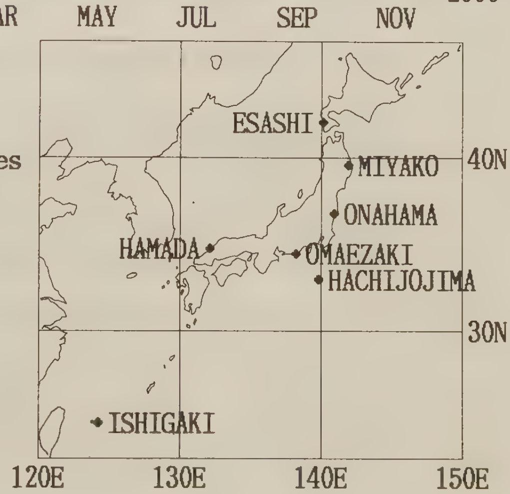


第12図　海域別旬平均海面水温平年偏差時系列図（つづき）

Fig.12 (continue) Time series of the ten-day mean sea surface temperature anomalies (°C) in the western North Pacific for the areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1961-90).

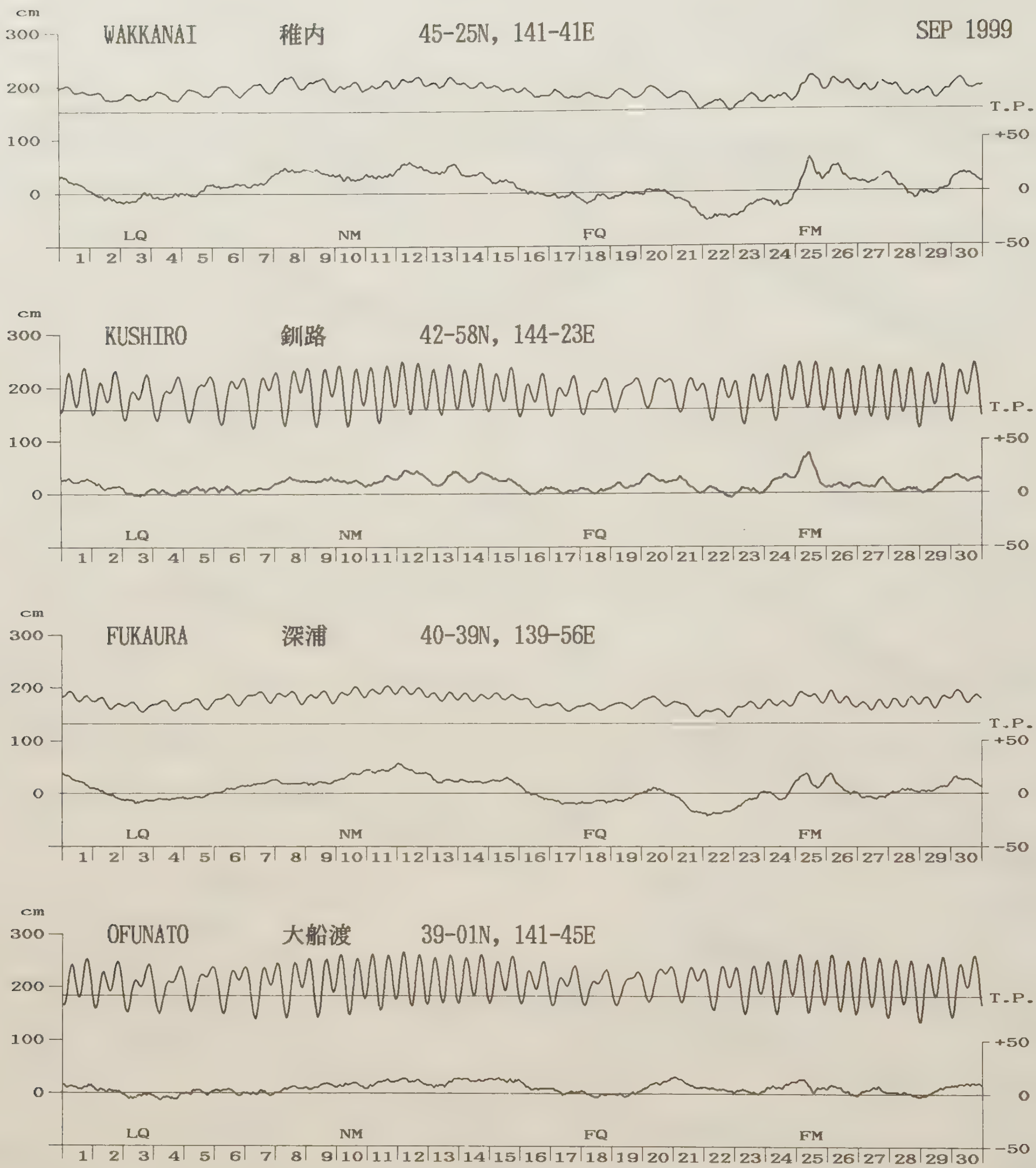






第13図 沿岸水温時系列図

Fig.13 Time series of hourly coastal water temperatures (°C) measured at 7 coastal stations of the JMA shown in the right panel.
Thin lines show ten-day mean climatology.

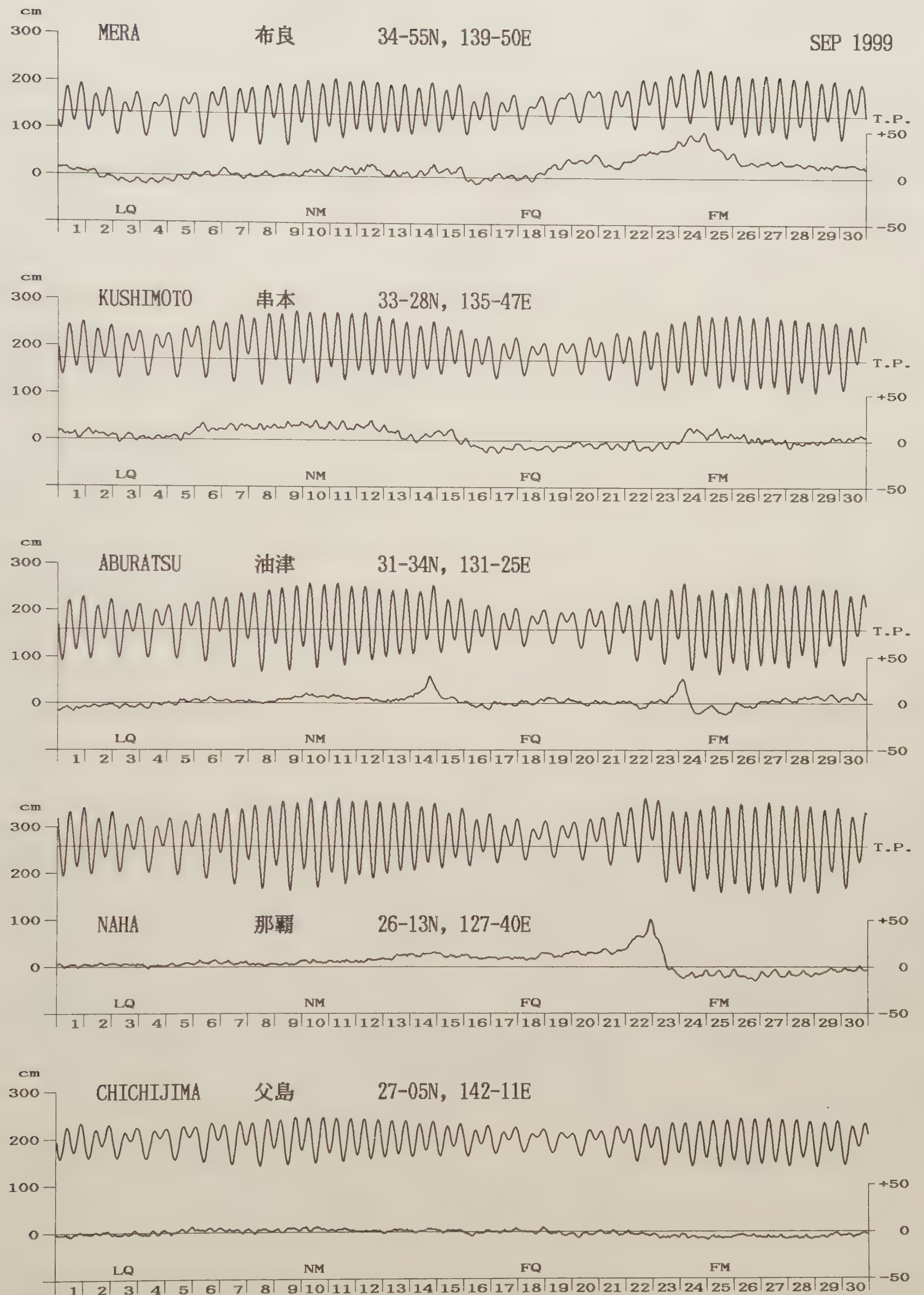


第14図 沿岸潮位時系列図 (1999年 9月)

Fig.14 Time series of hourly sea level observation (upper line) and its anomalies (lower line) at 9 stations of the JMA in the right panel.
Short term variations are removed from raw data.

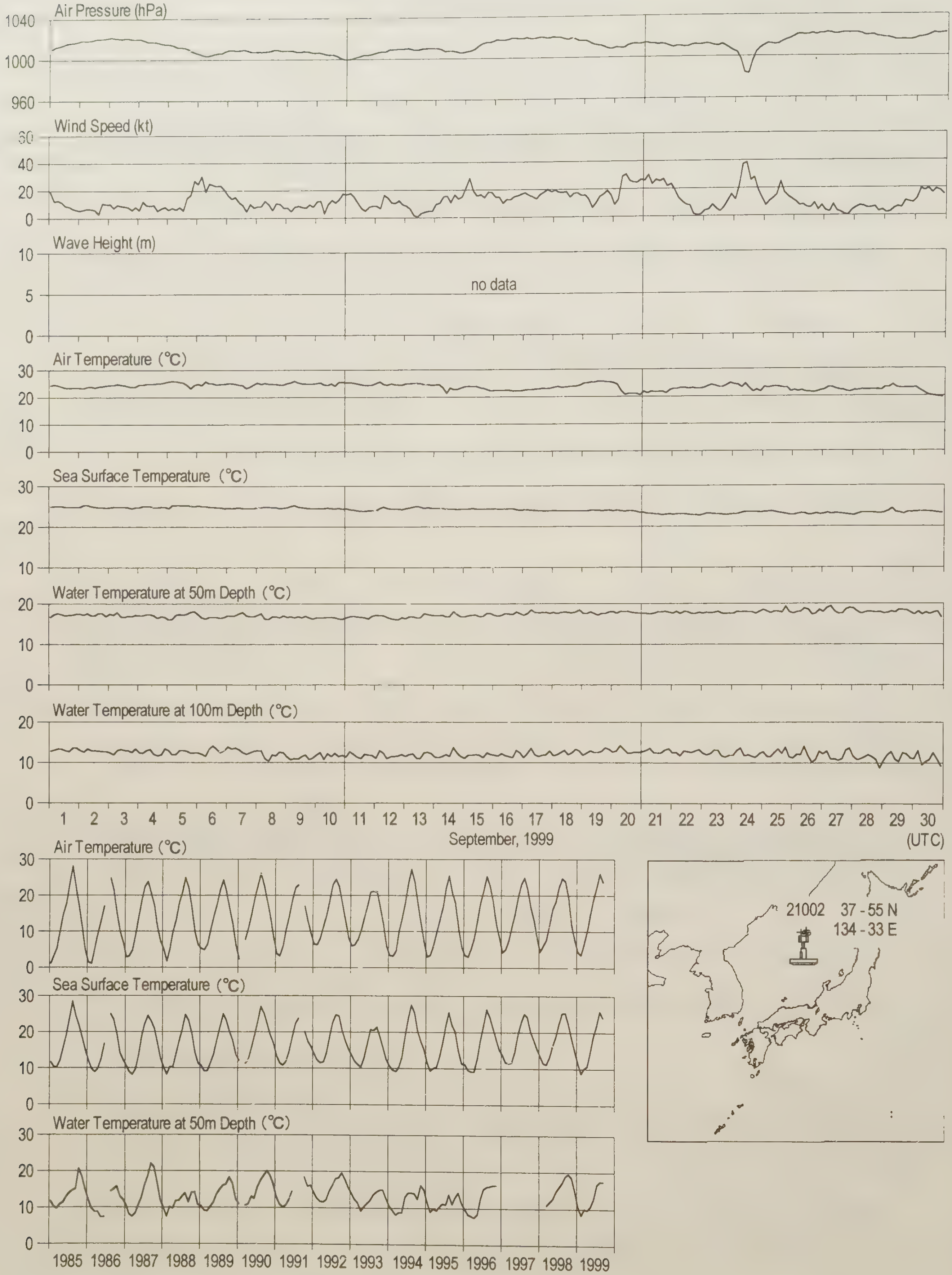
NM: new moon, FQ: first quarter
FM: full moon, LQ: last quarter
T.P.: Mean sea level of Tokyo Bay (Tokyo Peil)





第14図 つづき

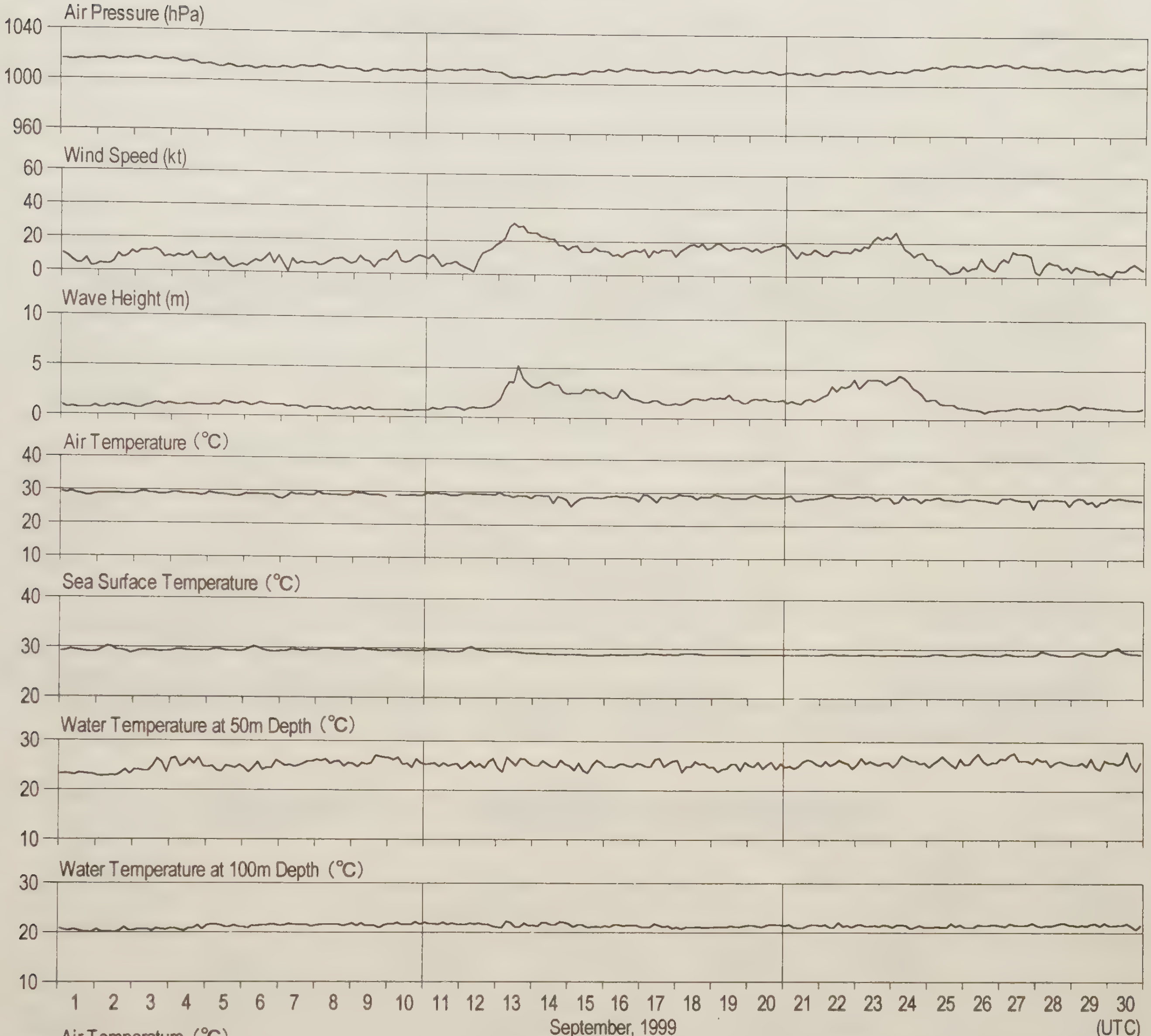
Fig.14 continue

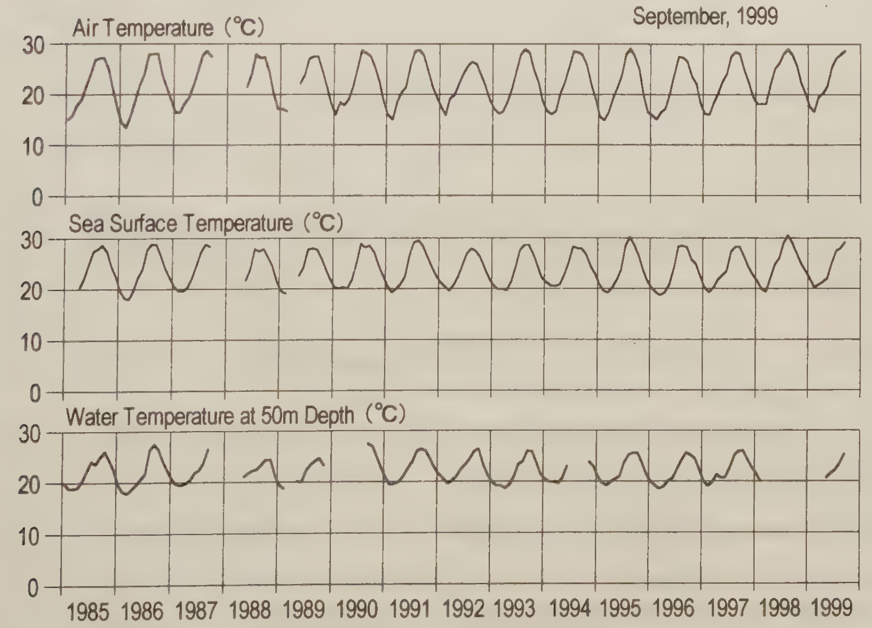


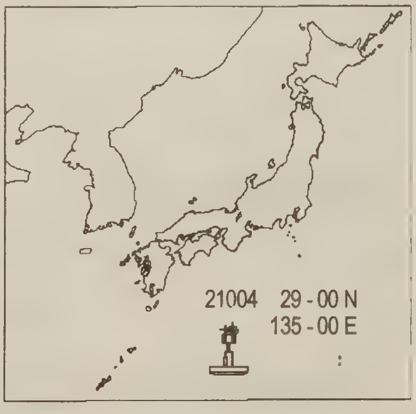
第15図　海洋気象ブイロボットによる観測要素の時系列図（日本海：21002）
上段は３時間毎の観測値を、下段は月平均値を示す。

Fig.15　Time series of JMA buoy observation in the Japan Sea (WMO ID No. 21002).
The upper panel shows three hourly observation and the lower panel shows the monthly mean data.

Ocean Data Buoy Observations

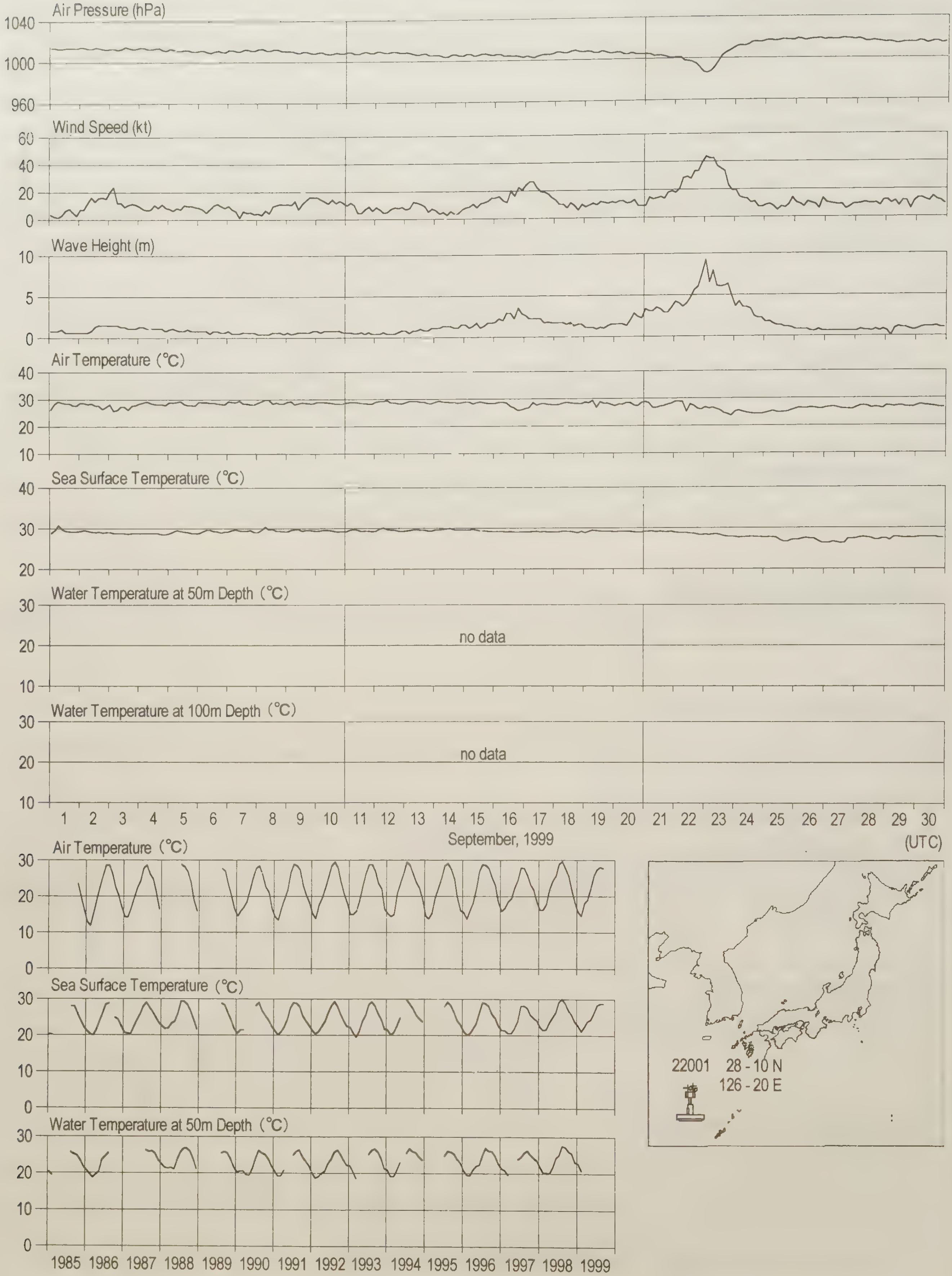






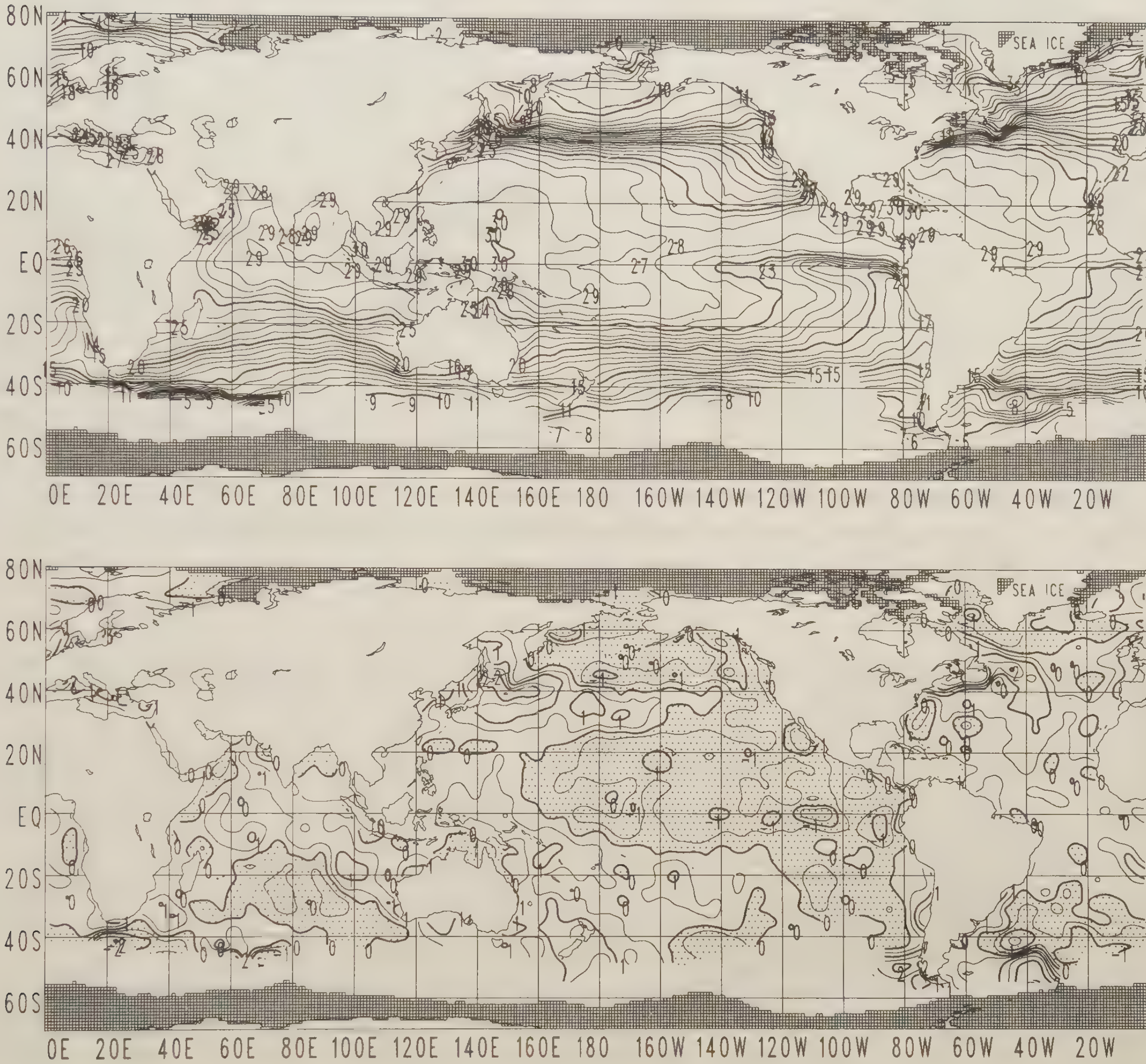
第15図　海洋気象ブイロボットによる観測要素の時系列図（四国沖：21004）
上段は３時間毎の観測値を、下段は月平均値を示す。

Fig.15　Time series of JMA buoy observation south of Shikoku (WMO ID No. 21004).
The upper panel shows three hourly observation and the lower panel shows the monthly mean data.



第15図　海洋気象ブイロボットによる観測要素の時系列図（東シナ海：22001）
上段は３時間毎の観測値を、下段は月平均値を示す。

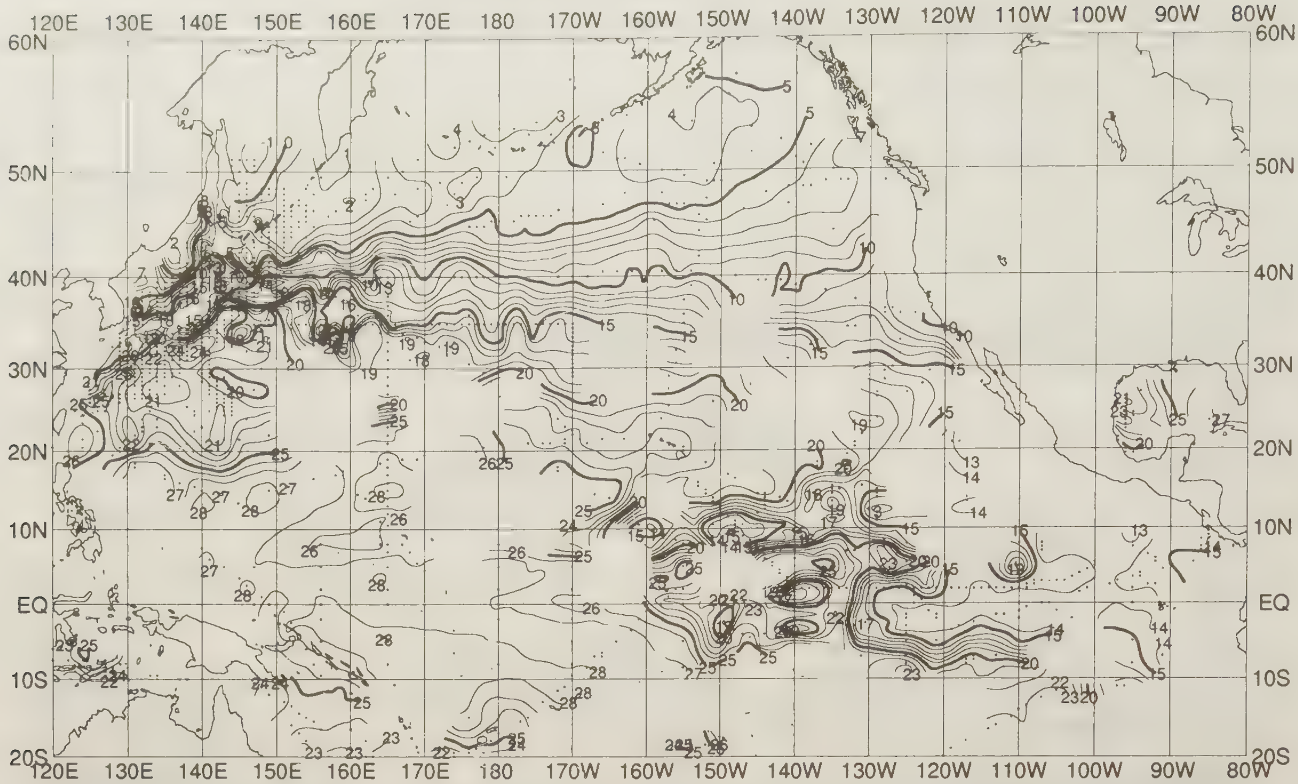
Fig.15　Time series of JMA buoy observation in the East China Sea (WMO ID No. 22001).
The upper panel shows three hourly observation and the lower panel shows the monthly mean data.



第16図　全球月平均海面水温図（上）及び偏差図（下）（1999年 9月）

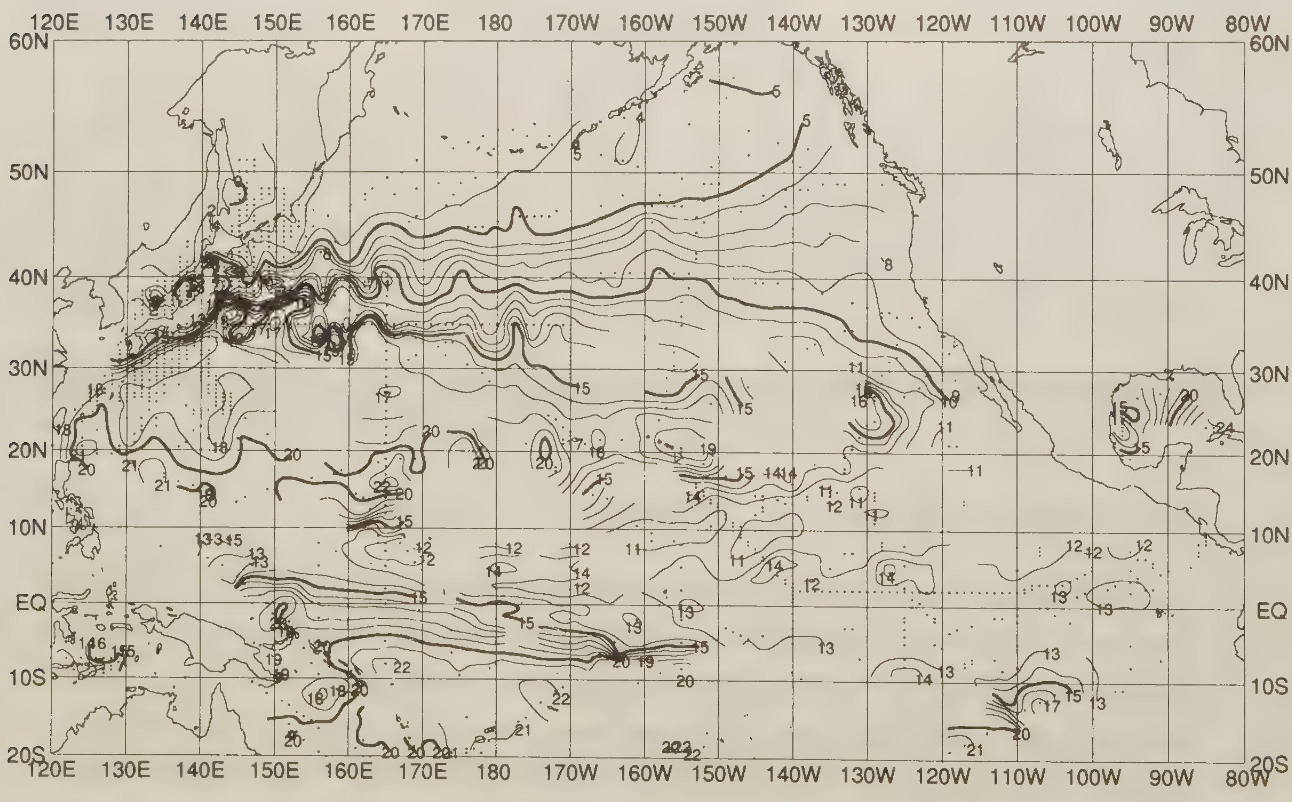
Fig.16 Monthly mean sea surface temperature over the global ocean (top) and anomalies (bottom) for SEP 1999. Anomalies are computed from the JMA climatology (1961-1990). Contour interval is 1°C (top) and additional anomaly contours of ±0.5°C are shown by thin lines. Negative anomalies are spotted. Maximum coverage of sea ice is shaded. Data sources for sea ice are U.S. National Ice Center (polar regions) and JMA (the Sea of Okhotsk).

100m/200m Temperatures in the Pacific Ocean



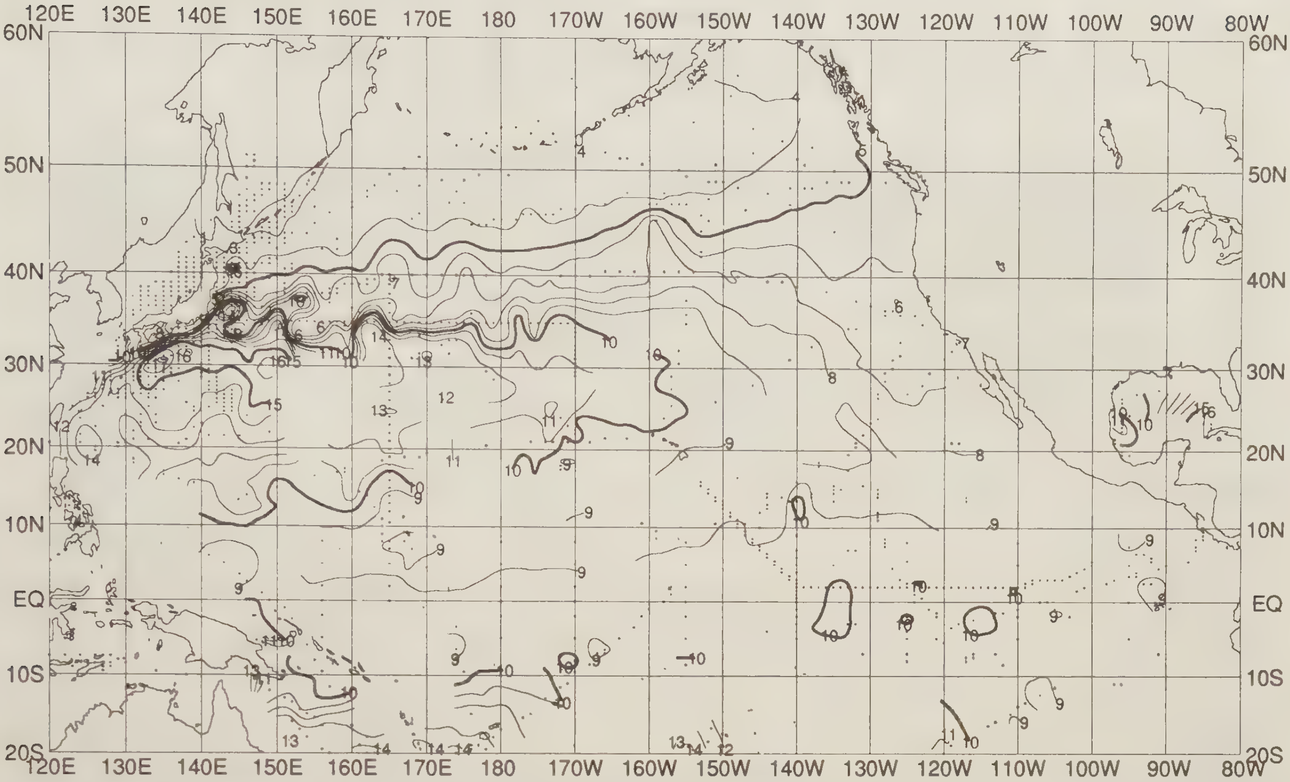
第 17 図　太平洋表層水温図（深さ 100 m）（1999 年 9 月）

Fig. 17　Subsurface (100 m) temperatures in the Pacific Ocean for September 1999. Contour interval is 1 ℃. Observation points are denoted by dots.



第 18 図　太平洋表層水温図（深さ 200 m）（1999 年 9 月）

Fig. 18　Subsurface (200 m) temperatures in the Pacific Ocean for September 1999. Contour interval is 1 ℃. Observation points are denoted by dots.



第 19 図　太平洋表層水温図（深さ 400 m）（1999 年 9 月）

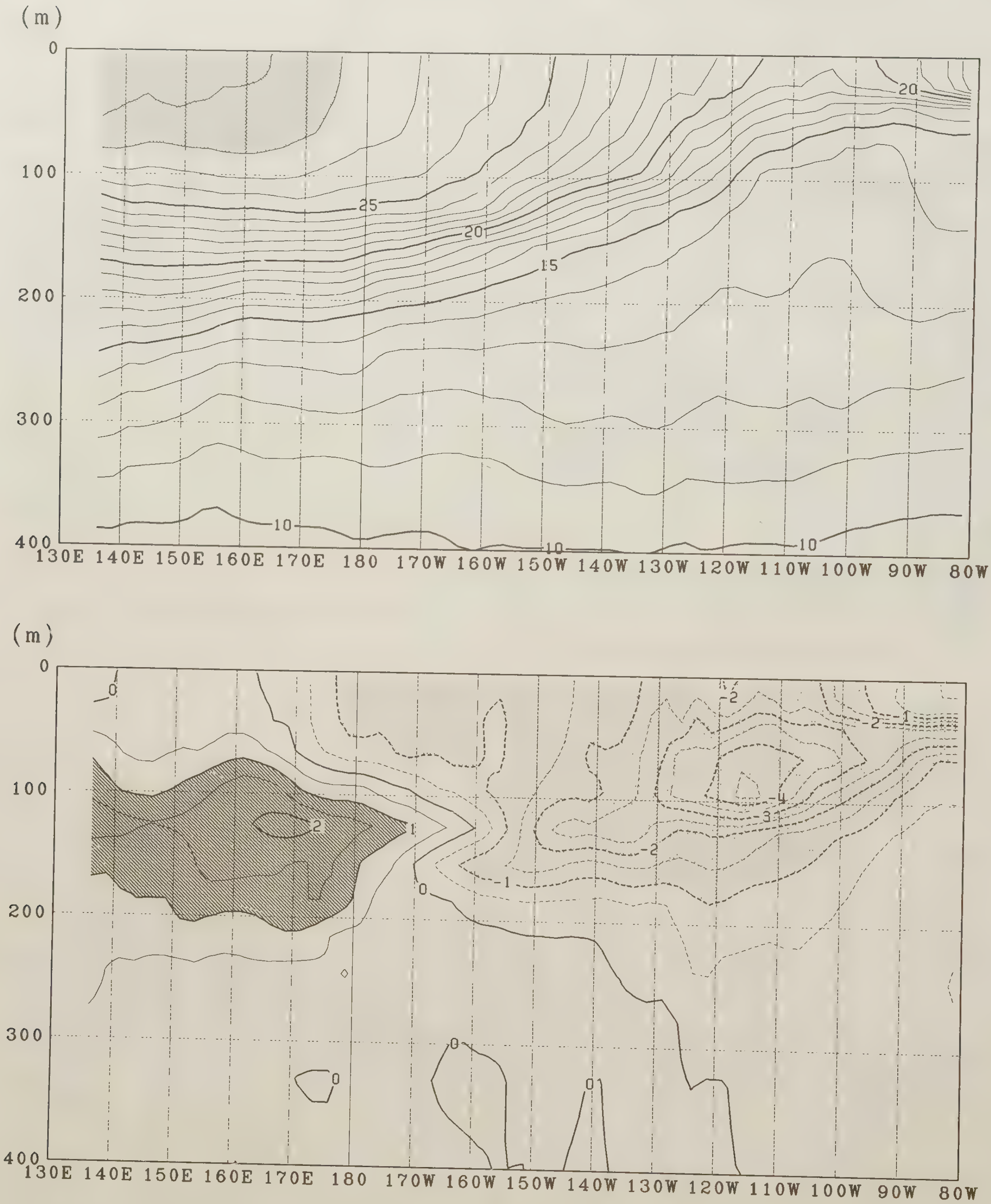
Fig. 19　Subsurface (400 m) temperatures in the Pacific Ocean for September 1999. Contour interval is 1 ℃. Observation points are denoted by dots.



第 20 図　太平洋ブイ流跡図（1999 年 9 月）

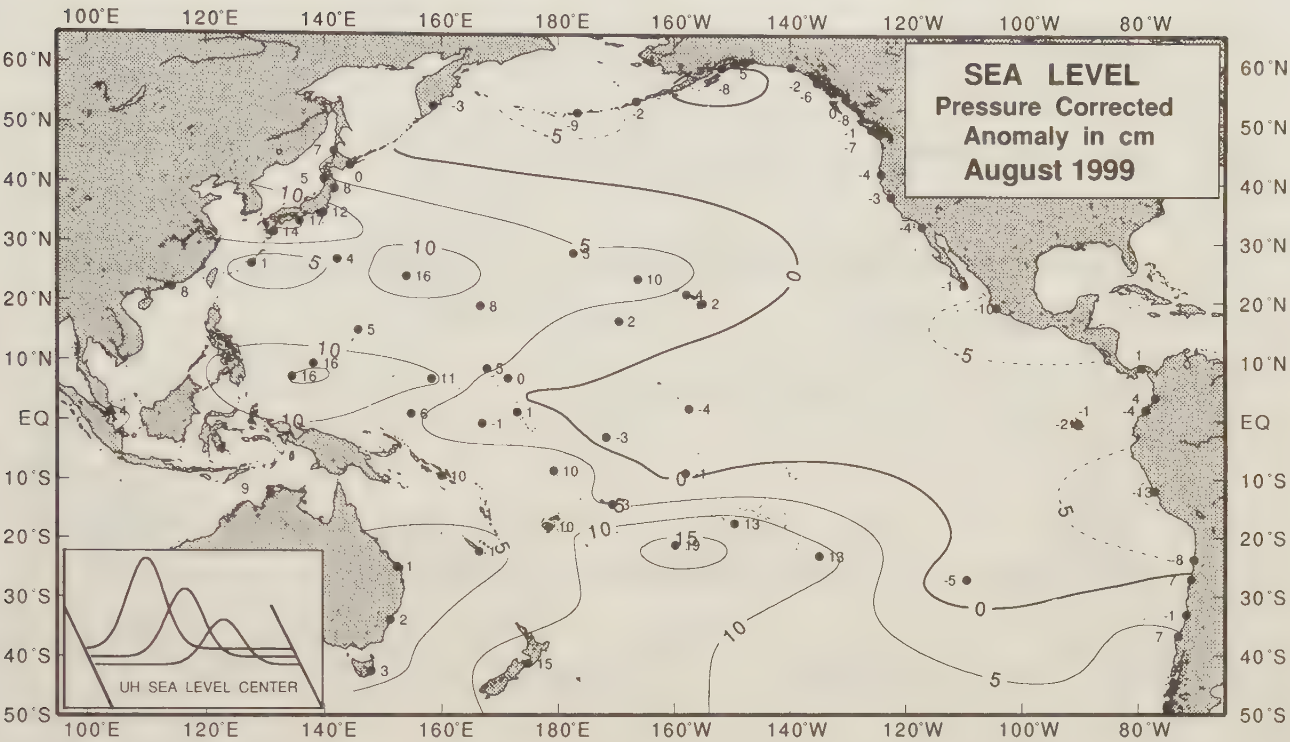
Fig. 20　Movements of drifting buoys in the Pacific Ocean during September 1999. Each track is for one buoy. Small circles represent the last positions for the month.

Depth-Longitude Sections of Equatorial Temperature & Anomalies



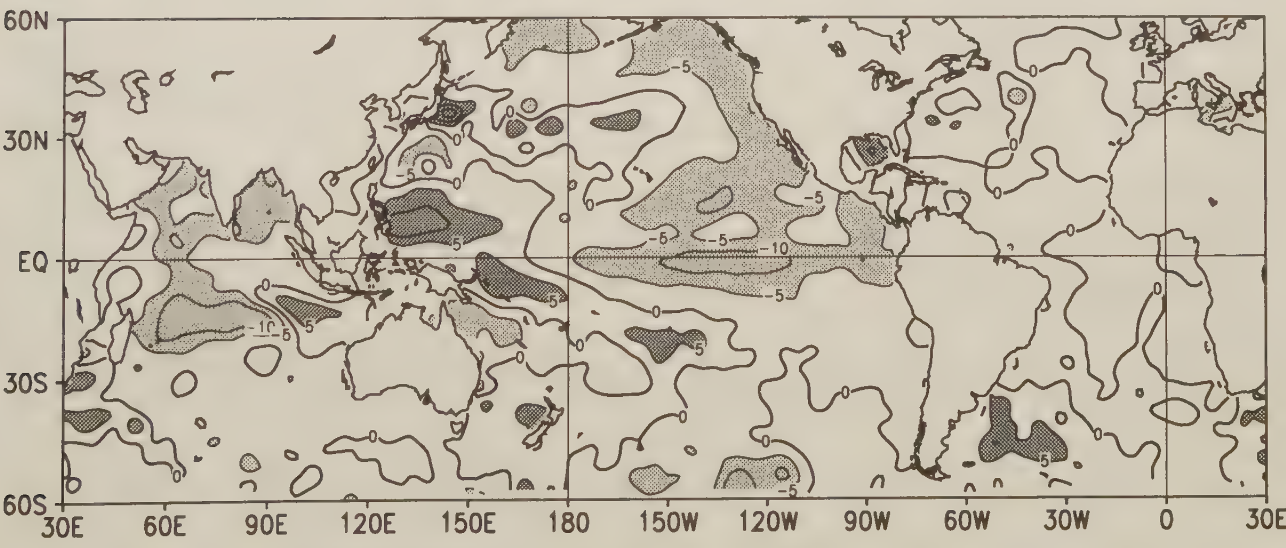
第21図　太平洋赤道に沿う表層水温（上）及び偏差（下）の深度－経度断面図（1999年 9月）

Fig.21 Depth-longitude sections of temperature (top) and anomalies (bottom) along the equator in the Pacific Ocean for SEP 1999. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (top) and 0.5°C (bottom). Values greater than 28°C in the top panel are shaded. In the bottom panel, values greater than 1°C are shaded and values less than -1°C are spotted. Anomalies are computed from 1987-1998 base period means.



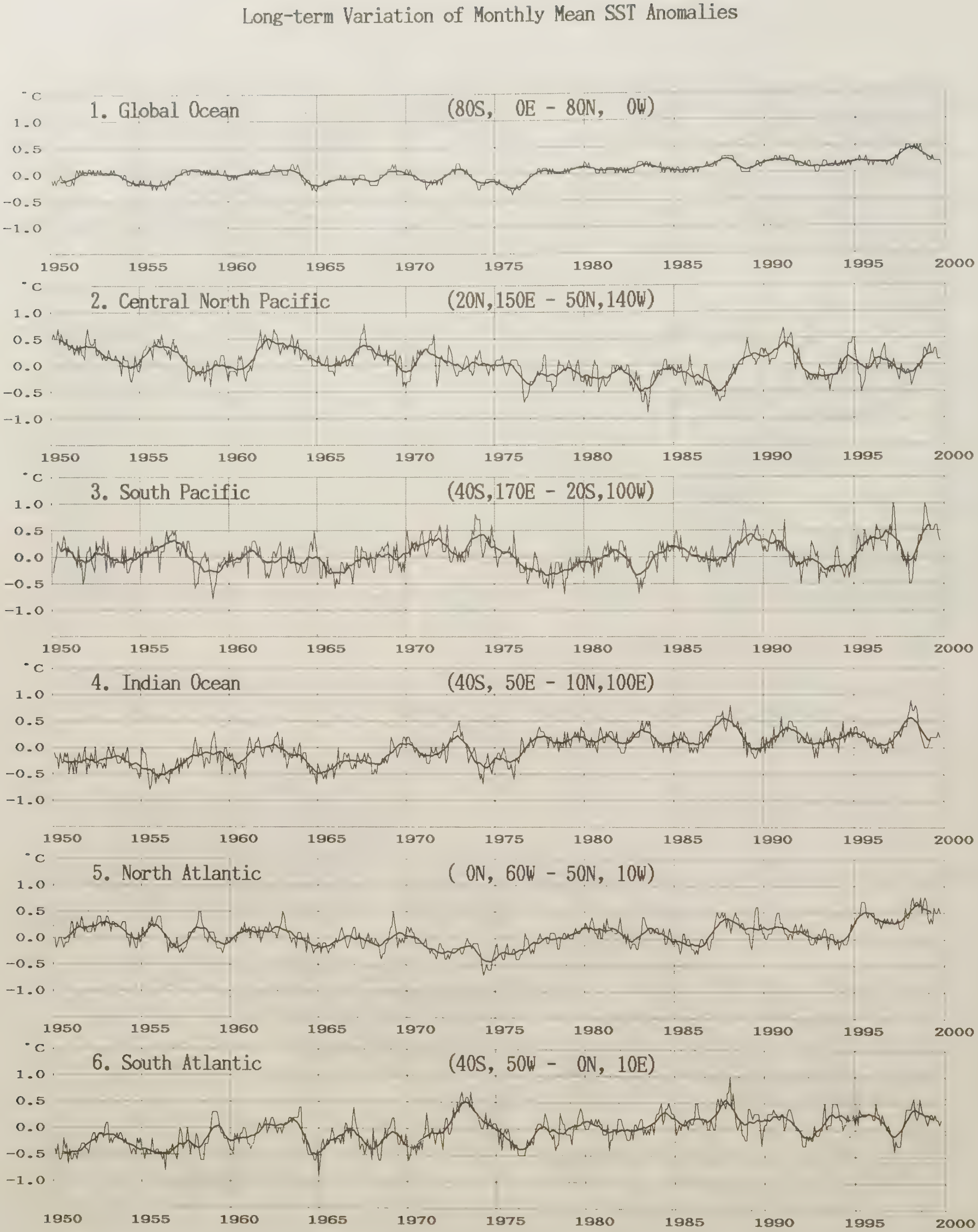
第 22 図　太平洋月平均海面水位偏差図（1999 年 8 月）

Fig. 22　Monthly sea level anomalies for August 1999 obtained from mean sea level (1975-1995) adjusted for atmospheric pressure. This figure is prepared by the SOC of ISLP-PAC, Department of Oceanography, University of Hawaii.



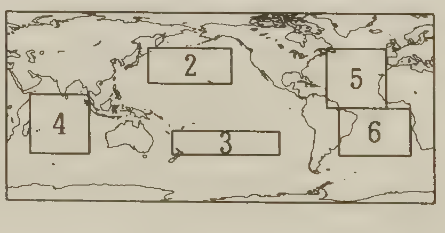
第 23 図　全球月平均海面高度偏差図（1999 年 8 月）

Fig. 23　Monthly sea surface height anomalies in the global ocean derived from the altimeter data of TOPEX/POSEIDON for August 1999. Contour interval is 5 cm. Positive anomalies exceeding +5 cm are shaded and negative anomalies exceeding -5 cm are spotted. Anomalies are computed from 1993-1998 base period means.

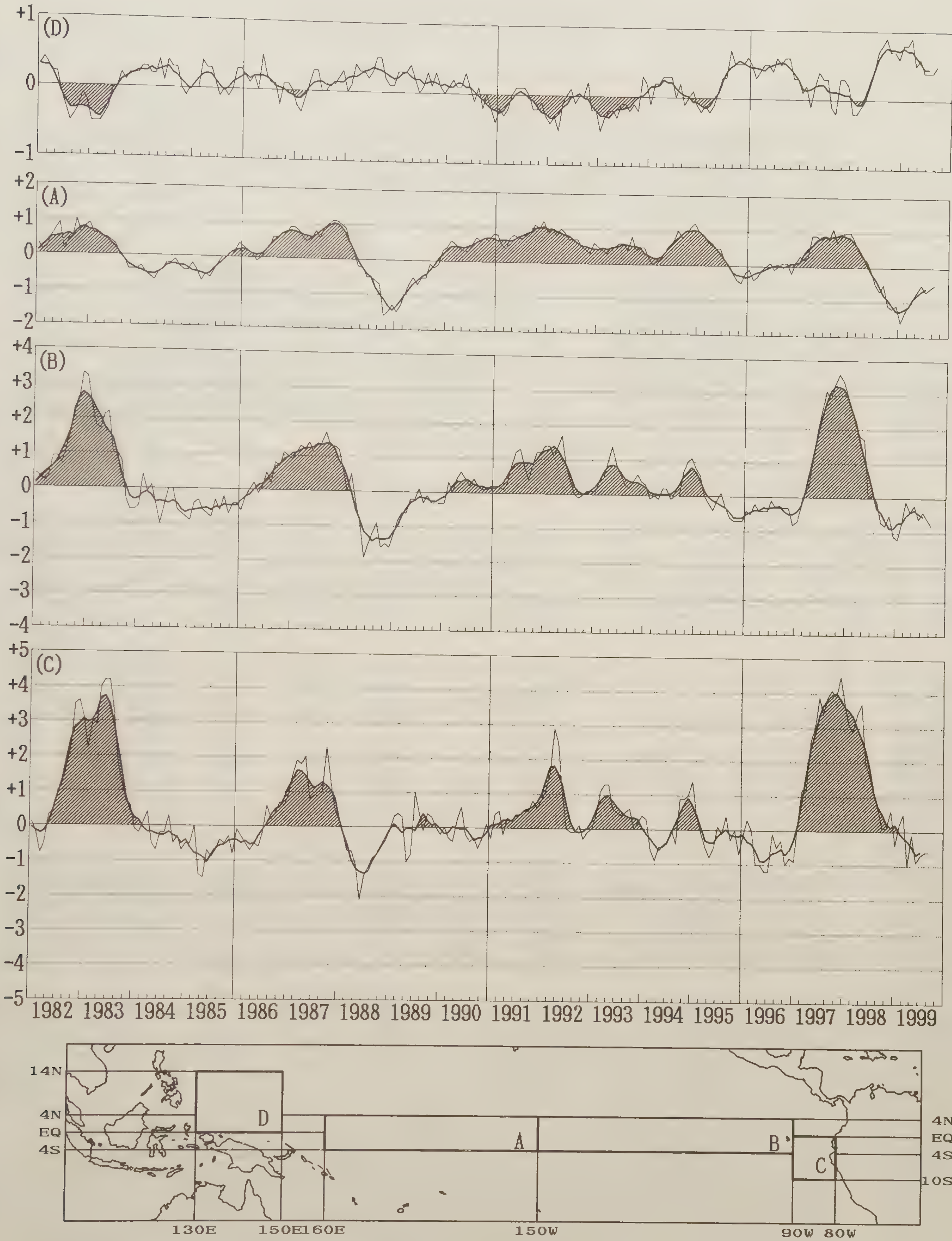


第24図 海域平均海面水温偏差の長期変動

Fig.24 Long-term variations of monthly mean sea surface temperature anomalies (°C) for the areas shown in the right panel. Anomalies are computed from the JMA climatology (1961-90). Thin lines show the monthly mean and thick lines their 13-month running means.



Time Series of Equatorial Pacific SST Anomalies



第25図　太平洋赤道域の海面水温偏差時系列図

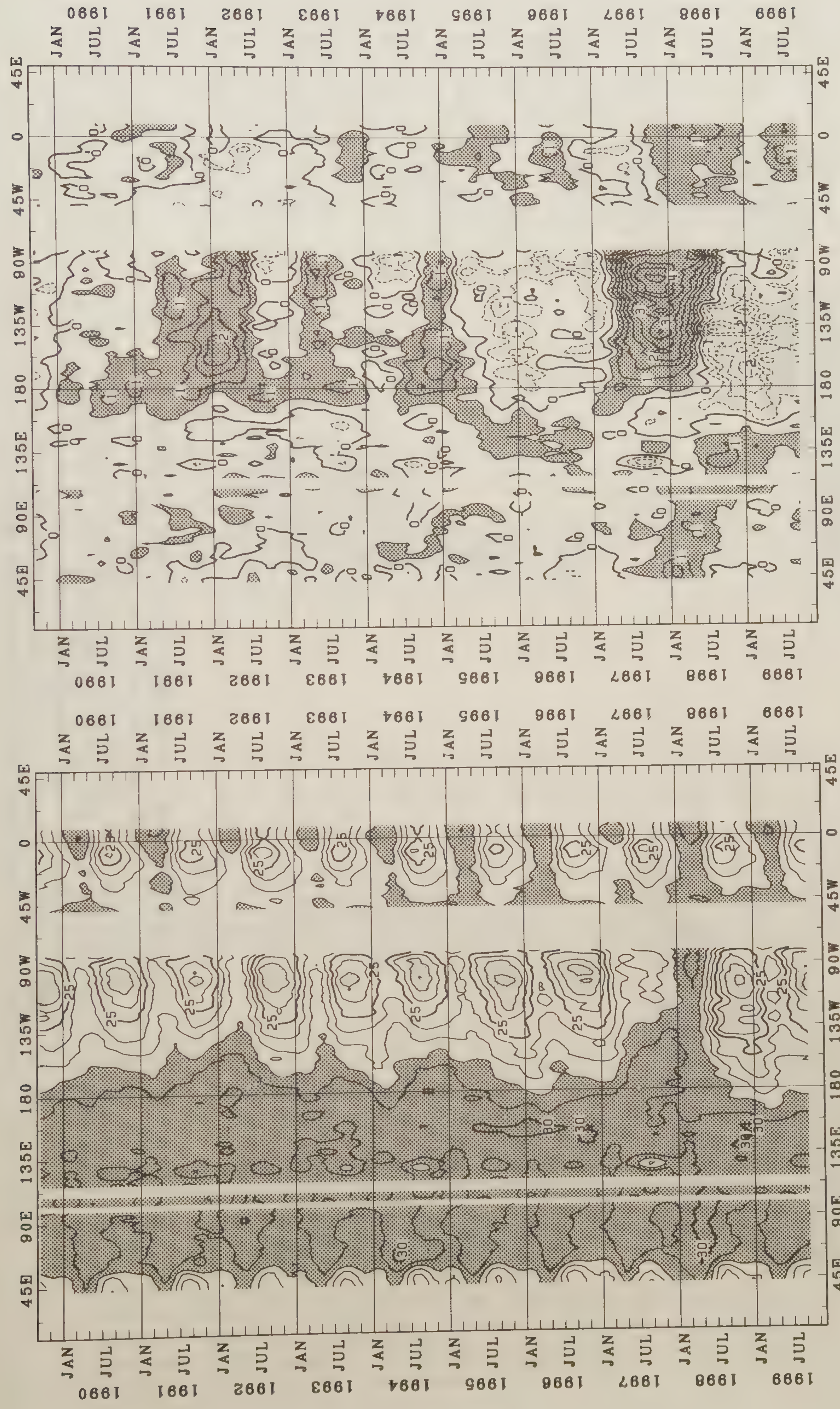
Fig.25 Time series of monthly mean SST anomalies (°C) in the equatorial Pacific Ocean for the areas indicated at the bottom panel. Thin lines show the monthly means and thick lines their 5-month running means. Positive anomalies (A, B, C) and negative anomalies (D) are shaded. Anomalies are computed from the JMA climatology (1961-1990).

El Nino Monitoring Indices

MONTH	SEA SURFACE TEMPERATURE AND ANOMALY (°C)								SOI	SEA LEVEL PRESSURE ANOMALY (hPa)	
	REGION D 14N-EQ 130E-150E		REGION A 4N-4S 160E-150W		REGION B 4N-4S 150W-90W		REGION C EQ-10S 90W-80W		SOI	TAHITI 17-33S 149-37W	DARWIN 12-24S 130-52E
JAN 97	28.6	0.1	28.3	0.3	24.7	-0.7	23.4	-0.9	0.3	1.7	0.9
FEB 97	28.5	0.2	28.2	0.2	25.9	-0.3	25.9	0.2	1.2	1.0	-1.9
MAR 97	28.3	-0.1	28.4	0.3	27.0	0.1	27.1	1.2	-0.6	-0.5	0.9
APR 97	29.0	0.2	29.1	0.9	27.5	0.4	26.3	1.2	-1.1	0.4	2.3
MAY 97	29.5	0.4	29.4	0.9	27.9	1.3	26.5	2.6	-2.5	-2.1	0.9
JUN 97	29.6	0.3	29.3	0.8	28.1	2.0	25.7	3.0	-2.3	-0.8	2.1
JUL 97	29.5	0.3	29.4	0.9	27.8	2.6	25.5	3.9	-0.8	-0.1	1.2
AUG 97	29.0	-0.1	29.2	0.8	27.7	3.1	24.0	3.4	-2.0	-0.9	2.2
SEP 97	29.0	-0.2	29.4	1.1	27.5	2.9	24.2	3.9	-1.4	0.1	2.7
OCT 97	29.6	0.3	29.1	0.7	27.9	3.3	24.8	4.1	-1.6	-0.2	2.7
NOV 97	29.5	0.3	29.3	0.9	28.2	3.6	25.4	3.9	-1.2	0.4	2.7
DEC 97	29.1	0.2	29.2	1.0	28.3	3.4	27.1	4.5	-0.9	-0.5	1.1
JAN 98	28.3	-0.2	29.0	1.0	28.4	3.0	28.0	3.7	-2.3	-3.6	1.4
FEB 98	28.1	-0.2	28.8	0.8	28.8	2.6	28.8	3.1	-1.8	-0.9	3.5
MAR 98	28.3	-0.1	28.6	0.5	29.0	2.1	28.8	2.9	-2.5	-2.8	2.3
APR 98	28.8	0.0	28.5	0.3	28.9	1.8	28.5	3.4	-2.3	-1.5	1.4
MAY 98	29.3	0.2	28.7	0.2	28.3	1.7	27.6	3.7	0.0	0.4	0.5
JUN 98	29.7	0.4	28.4	-0.1	26.1	0.0	24.7	2.0	1.1	0.9	-0.5
JUL 98	29.9	0.7	28.0	-0.5	25.3	0.1	23.2	1.6	1.5	1.8	-0.6
AUG 98	29.9	0.8	27.7	-0.7	24.5	-0.1	21.7	1.1	1.0	1.4	-0.2
SEP 98	30.1	0.9	27.8	-0.5	23.9	-0.7	21.0	0.7	1.0	1.4	-0.4
OCT 98	30.0	0.7	27.3	-1.1	23.8	-0.8	20.8	0.1	1.2	0.8	-1.1
NOV 98	29.9	0.7	27.2	-1.2	24.1	-0.5	21.6	0.1	1.0	0.4	-1.5
DEC 98	29.5	0.6	27.1	-1.1	23.8	-1.1	23.2	0.6	1.5	1.1	-1.5
JAN 99	29.3	0.8	26.4	-1.6	24.2	-1.2	23.9	-0.4	1.5	1.8	-1.5
FEB 99	29.1	0.8	26.7	-1.3	25.5	-0.7	25.9	0.2	0.8	1.3	-0.6
MAR 99	29.3	0.9	27.0	-1.1	26.8	-0.1	26.4	0.5	0.8	0.4	-1.3
APR 99	29.3	0.5	27.3	-0.9	26.7	-0.4	24.1	-1.0	1.8	1.3	-0.9
MAY 99	29.7	0.6	27.8	-0.7	26.4	-0.2	23.8	-0.1	0.3	1.1	1.1
JUN 99	29.7	0.4	28.0	-0.5	25.5	-0.6	21.8	-0.9	0.1	0.6	0.4
JUL 99	29.6	0.4	27.8	-0.7	24.8	-0.4	20.9	-0.7	0.5	1.0	0.1
AUG 99	29.5	0.4	27.8	-0.6	24.0	-0.6	20.0	-0.6	0.0	1.3	1.1
SEP 99	29.7	0.5	27.8	-0.5	23.8	-0.8	19.7	-0.6	-0.1	0.2	0.4

第1表　エルニーニョ監視指数

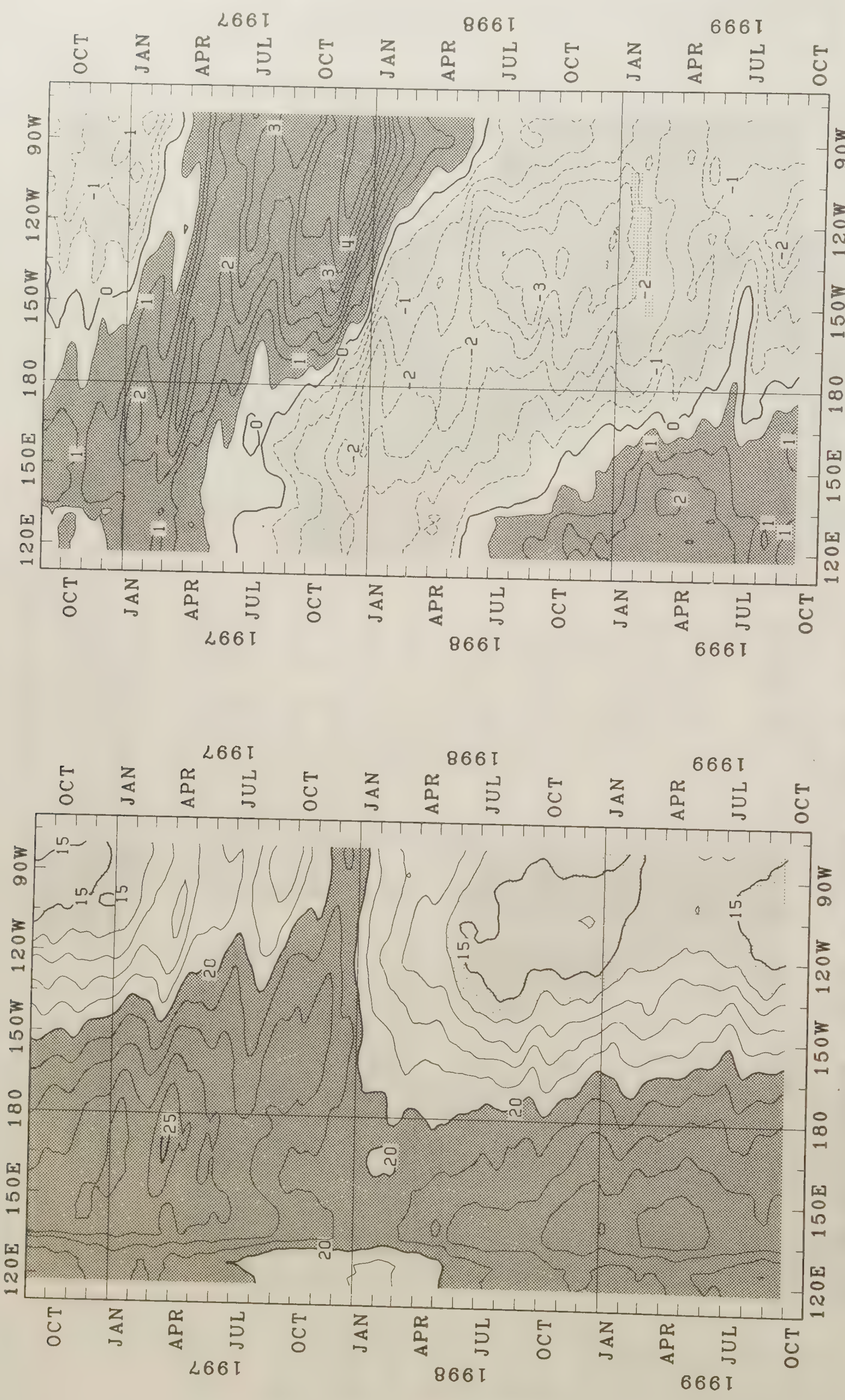
Table 1 El Nino Monitoring indices



第 26 図　赤道に沿った海面水温（左）及び偏差（右）の時間-経度断面図

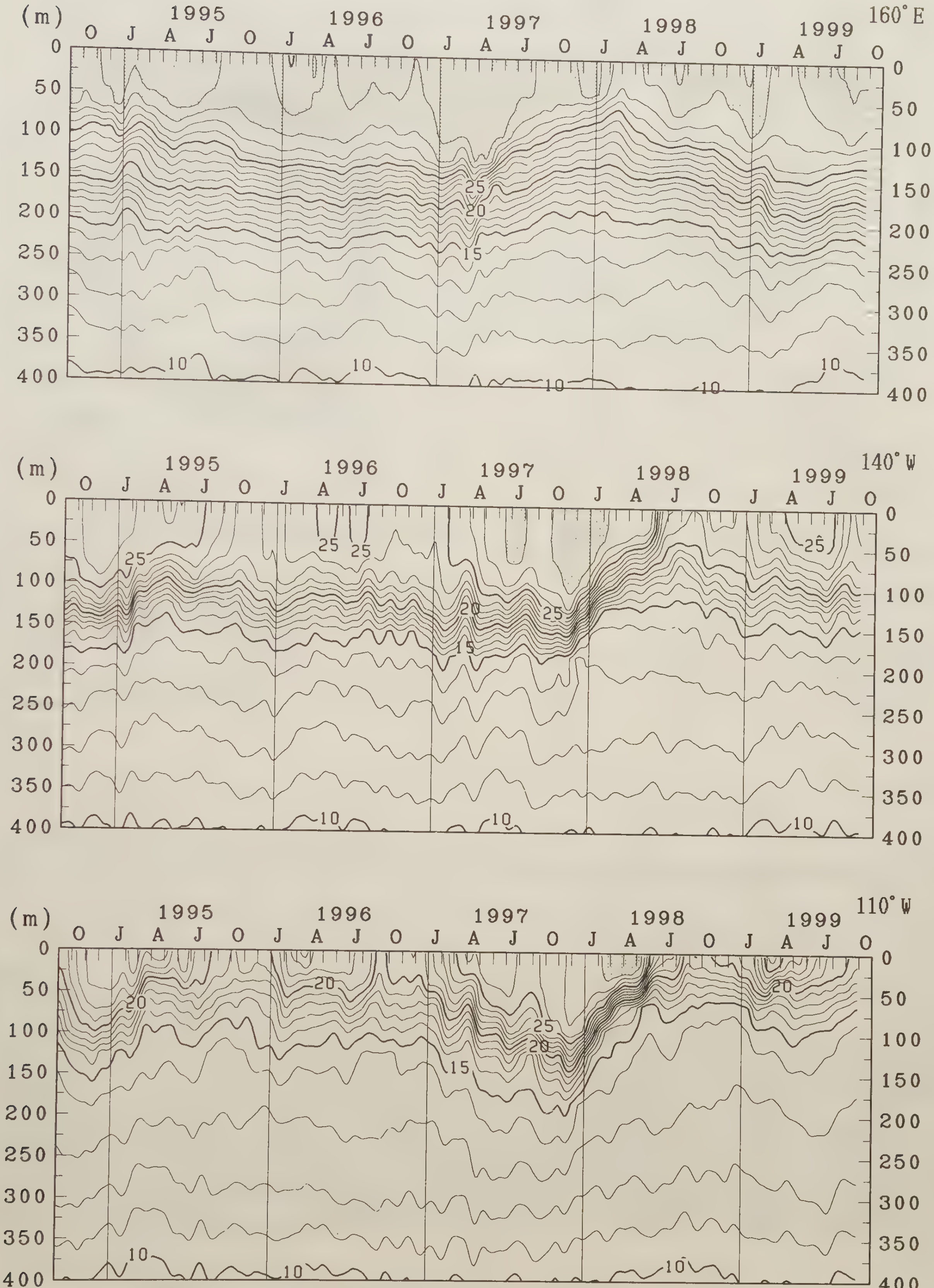
Fig. 26　Time-longitude sections of SSTs (left) and anomalies (right) along the equator (2°N-2°S) in the global ocean. Contour interval is 1°C (left) and 0.5°C (right). Values greater than 28°C are shaded and values less than 23°C are spotted in the left panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1961-1990 base period means.

Time-Longitude Sections of Ocean Heat Content & Anomalies (Eq.)



第27図　太平洋の赤道に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

Fig.27 Time-longitude sections of ocean heat content in the upper 260 m along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right). Values greater than 20°C are shaded and values less than 16°C are spotted in the left panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1987-1998 base period means.

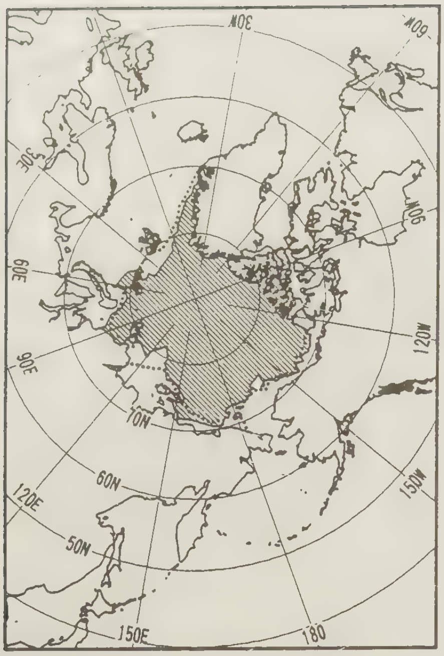


第28図　太平洋赤道域の表層水温の時間－深度断面図

（上：西部、中：中部、下：東部）

Fig.28 Time-depth sections of equatorial subsurface temperature for the western Pacific (top, 160°E), the central Pacific (middle, 140°W) and the eastern Pacific (bottom, 110°W). Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C. Values greater than 28°C are shaded.

Sea Ice

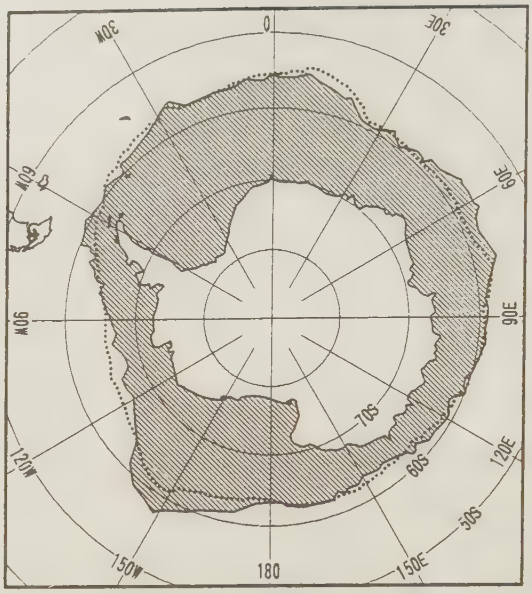


第29-1図　北極域の海氷図（1999年 9月16日）

Fig.29-1 Sea ice chart in the Arctic on 16 Sept. 1999.

The shaded area represents the sea ice extent. The dotted line denotes the mean ice edge averaged for the period from 1972 through 1990.

The data source is the National Ice Center (USA).



第29-2図　南極域の海氷図（1999年 9月17日）

Fig.29-2 Sea ice chart in the Antarctic on 17 Sept. 1999.

The shaded area represents the sea ice extent. The dotted line denotes the mean ice edge averaged for the period from 1973 through 1990.

The data source is the National Ice Center (USA).

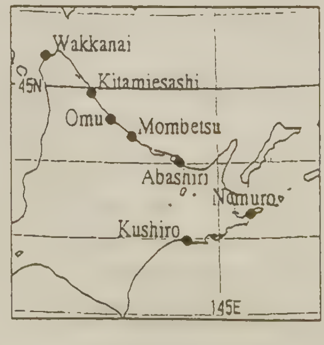
第29-1表　各地の海氷現象の極値表(1999年5月まで)

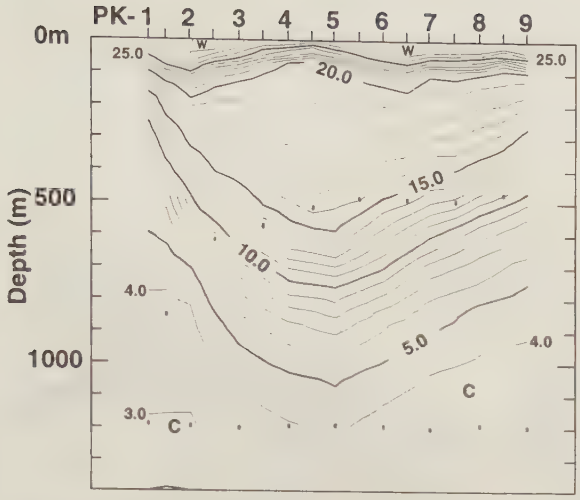
Table 29-1 Extremes of characteristic indices for drift ice conditions as of May in 1999

Station	First date in sight		Last date in sight		Numbers of days in sight	
	Earliest	Latest	Earliest	Latest	Maximum	Minimum
WAKKANAI	Jan.16,1961	Mar.25,1952	Jan.24,1959	Apr.09,1965	54(1984/85)	0(1997/98)
KITAMIESASHI	Jan.01,1953	Mar.21,1989	Feb.27,1992	May 04,1993	81(1977/78)	8(1991/92)
OMU	Dec.31,1946	Mar.19,1989	Mar.07,1951	May 06,1993	94(1980/81)	13(1988/89)
MOMBETSU	Jan.03,1967	Feb.14,1989	Feb.19,1976	May 08,1993	100(1980/81)	10(1988/89)
ABASHIRI	Dec.27,1953	Feb.10,1993	Mar.19,1991	May 12,1965	114(1965/66)	18(1988/89)
NEMURO	Jan.10,1951	Mar.20,1949	Feb.13,1989	May 02,1979	70(1985/86)	0(1990/91)
KUSHIRO	Feb.01,1960	Mar.21,1985	Feb.15,1967	Apr.23,1984	no record	no record

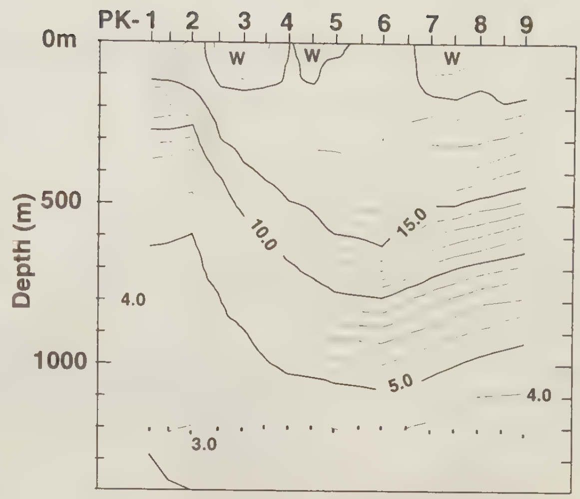
Note1: The first/latest dates have been recorded since 1946 except Mombetsu (since 1956).

Note2: The number of days in sight have been recorded since 1956.

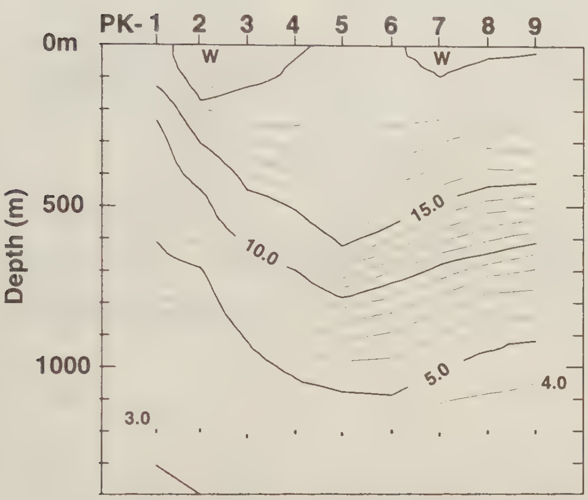




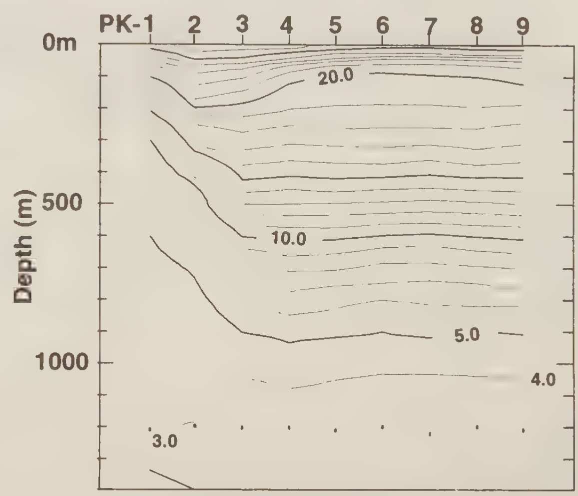
(a)October 1998



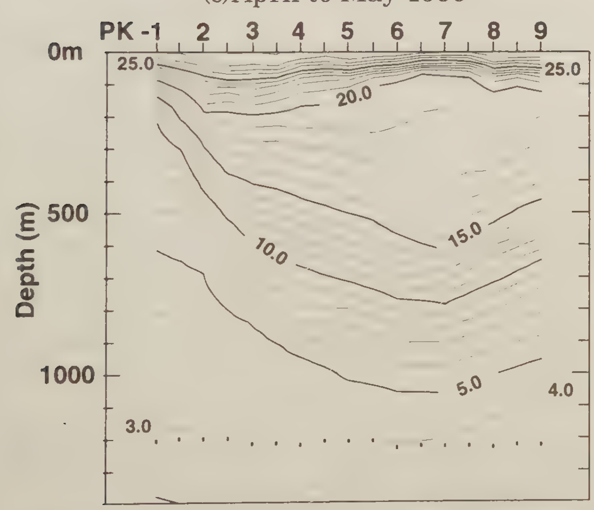
(b)January 1999



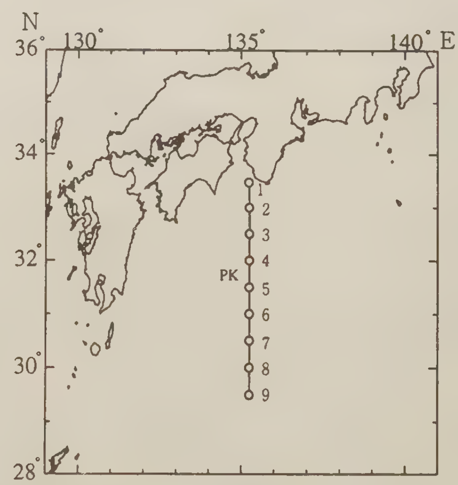
(c)April to May 1999



(d)July 1999



(e)August to September 1999

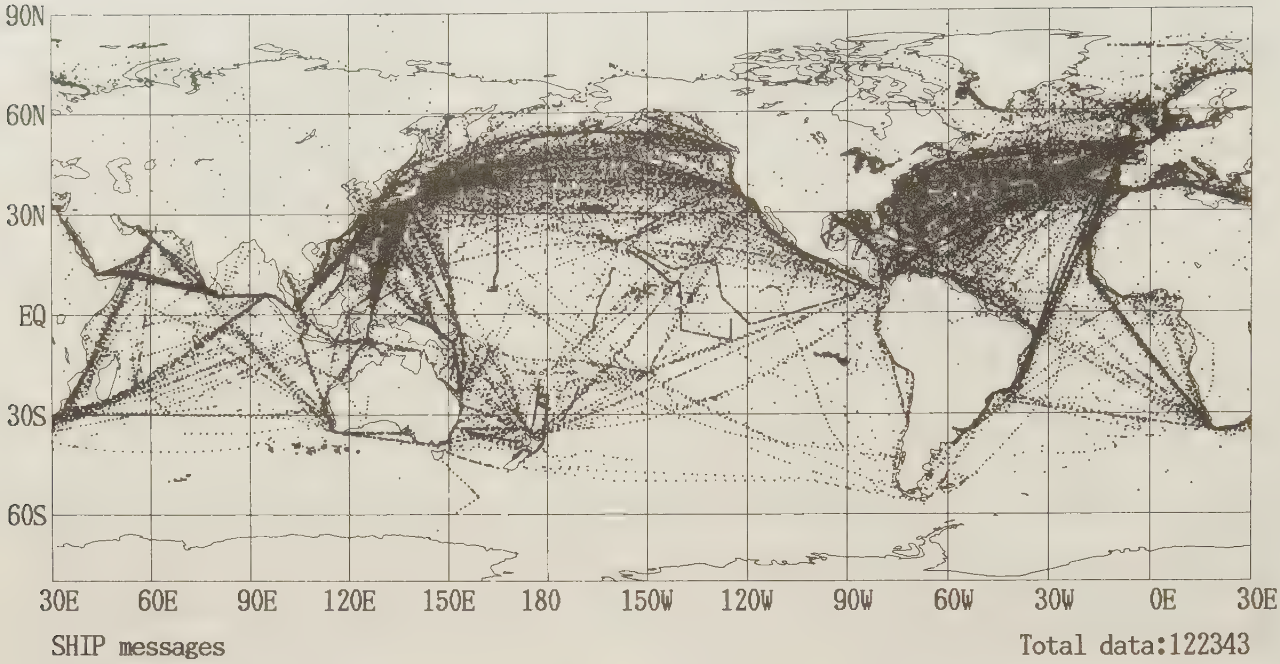


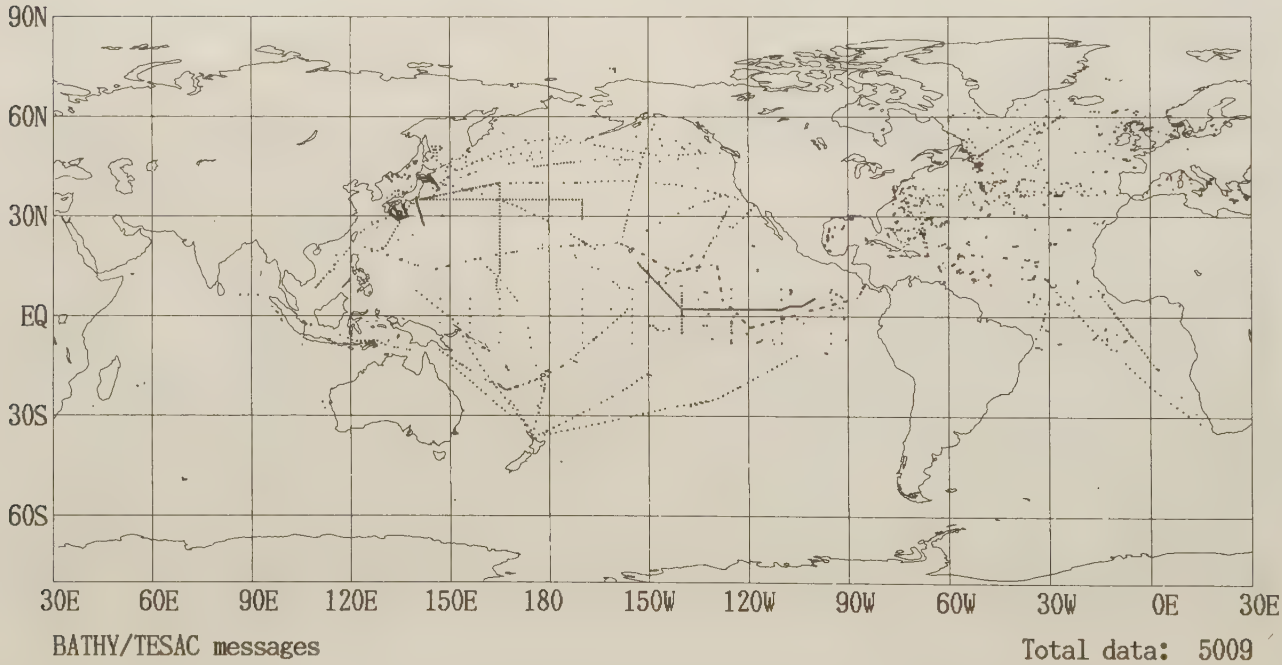
(f)

第 30 図 神戸海洋気象台春風丸による PK 線に沿った水温鉛直断面図. (a)1998 年 10 月, (b)1999 年 1 月, (c)1999 年 4～5 月, (d)1999 年 7 月, (e)1999 年 8～9 月, (f)PK 線の位置図.

Fig. 30 Vertical sections of temperature (℃) along the PK line observed by R/V Shumpu Maru of Kobe Marine Observatory of the Japan Meteorological Agency. (a)October 1998, (b)January 1999, (c)April to May 1999, (d)July 1999, (e)August to September 1999, (f)Location of the PK line.

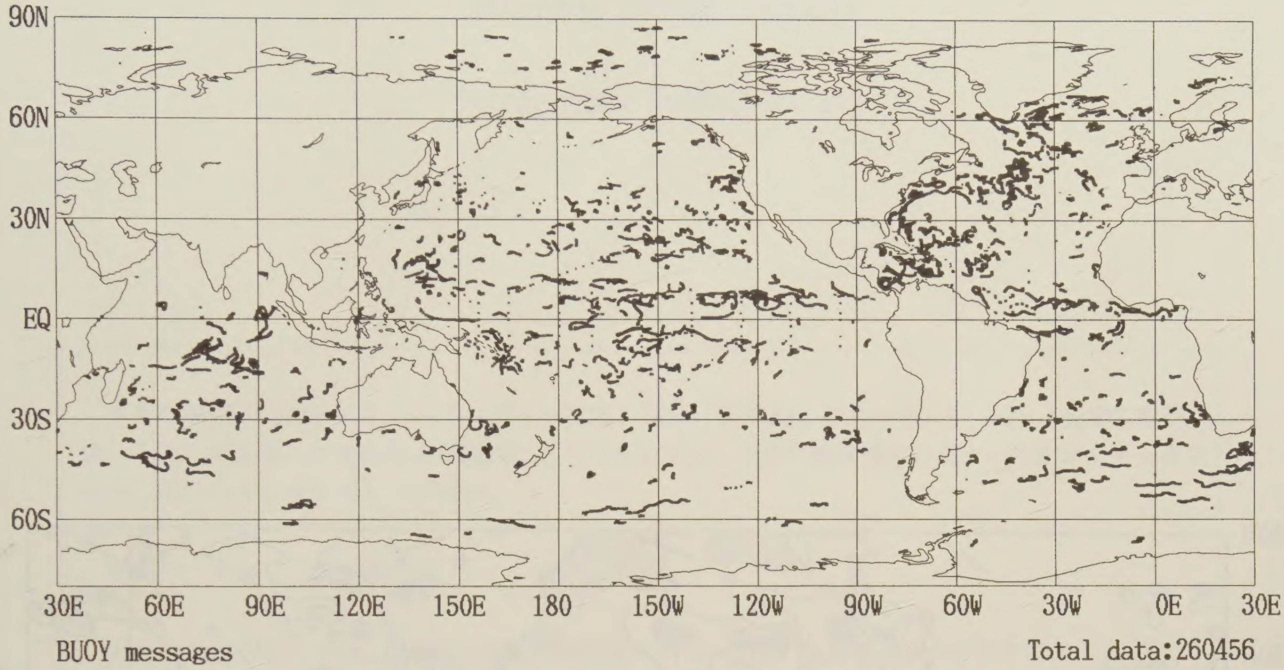
Geographical Distribution of Oceanographic Data

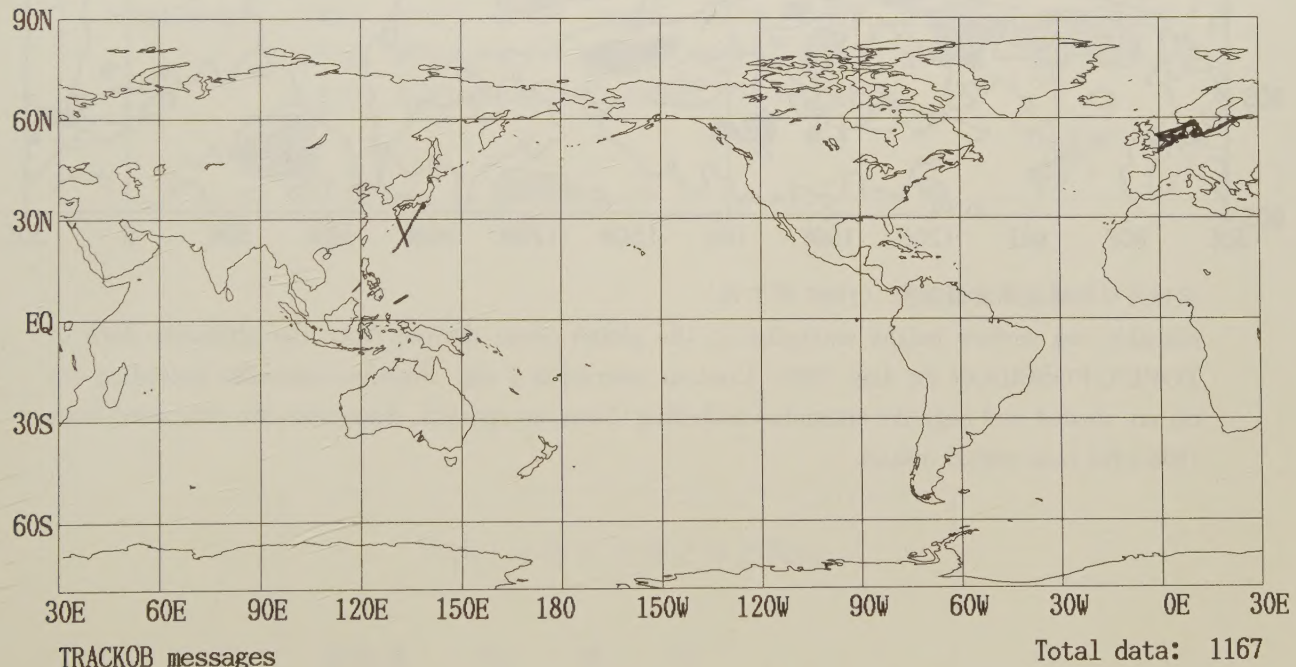




第31-1図　測点分布図(1999年 9月)

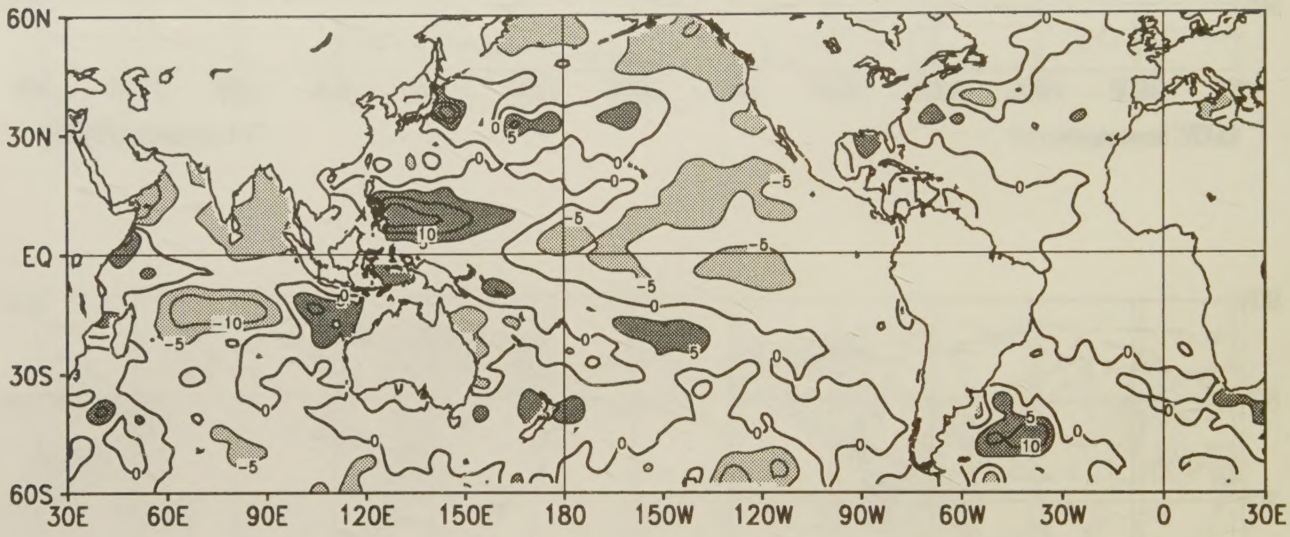
Fig.31-1 Geographical distribution of SHIP messages (SST data, top) and BATHY/TESAC messages (subsurface temperature data, bottom) for SEP 1999.





第31-2図　測点分布図(1999年 9月)

Fig.31-2 Geographical distribution of BUOY messages (buoy drift and SST data, top) and TRACKOB messages (ship drift and SST data, bottom) for SEP 1999.



全球月平均海面高度偏差図 （1999 年 7 月）

Monthly sea surface height anomalies in the global ocean derived from the altimeter data of TOPEX/POSEIDON for July 1999. Contour interval is 5 cm. Positive anomalies exceeding +5 cm are shaded and negative anomalies exceeding -5 cm are spotted. Anomalies are computed from 1993-1998 base period means.

気　象　庁　海　洋　月　報

Monthly Ocean Report

September 1999 (No. 81)

本月報掲載の 1999 年 9 月のプロダクトには、気象庁が観測したデータ及び GTS（全球気象通信網）を通じて入手した国際気象通報式による通報のほか、下記の機関等から提供いただいたデータを使用しています。御礼申し上げます。

防衛庁、水産庁、海上保安庁

海洋科学技術センター、（財）日本海洋科学振興財団、（社）漁業情報サービスセンター

東北大学、鹿児島大学

水産試験場等（北海道、青森県、岩手県、宮城県、秋田県、山形県、福島県、茨城県、千葉県、東京都、新潟県、富山県、石川県、福井県、静岡県、愛知県、三重県、京都府、兵庫県、和歌山県、鳥取県、島根県、山口県、福岡県）

（順不同）

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